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Taxonomy of *Dianthus* (Caryophyllaceae) – overall phylogenetic relationships and assessment of species diversity based on a first comprehensive checklist of the genus

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Abstract

In this study, we present an overall phylogenetic framework for *Dianthus* using four plastid regions (*matK-trnK-psbA*, *rpl32-trnL*, *trnQ-rps16*) and nuclear ITS and a species-level checklist for the genus developed by using all available databases and the literature. The trees from the plastid dataset depict a clade of *Dianthus* that also includes *Velezia* and a few taxa of *Petrorhagia*. New combinations in *Dianthus* are provided for these species. The checklist of *Dianthus* in this new delimitation covers 1781 names, with 384 accepted species, 150 subspecies, 12 heterotypic varieties and two forms (not counting autonyms), 1050 synonyms, 22 hybrid names and 172 unresolved names, 3 names were excluded. Implications for the evolution of flower characters, life forms, biogeography, as well as sectional classification are discussed based on the phylogenetic framework.

Keywords

Caryophyllaceae, Caryophyllales, Caucasus, *Dianthus*, EDIT Platform for Cybertaxonomy, Greece, *Petrorhagia*, phylogeny, taxonomy, *Velezia*, World Flora Online

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Introduction

The genus *Dianthus* L. (pinks and carnations) is after *Silene* L. the second largest genus in the family Caryophyllaceae. It it was considered to contain approximately 300 species mainly distributed in the northern hemisphere, with many range-restricted or narrow-endemic species in the Mediterranean area, SW Asia, the Caucasus and the Irano-Turanian region, and with some species occurring in eastern and southern Africa (Bittrich 1993). *Dianthus* is a genus with many taxonomically complex species groups, which is perhaps the reason that no comprehensive treatment of the whole genus exists. Valente et al. (2010) reported *Dianthus* to be one of the lineages with the highest species diversification rates in flowering plants, which may explain the evolution of numerous narrow-endemic taxa and render *Dianthus* an interesting model for understanding the evolution of north-temperate floras.

Dianthus consists of mostly perennial and a few annual or biennial herbs or shrubs with oblong to ovate or linear and grass-like leaves. According to the widely used circumscription of Pax and Hoffmann (1934), the genus is characterised by hermaphrodite flowers appearing solitary or in more or less dense terminal cymes. The flowers are subtended by 2 to many epicalyx scales and possess a 5-toothed, tubular calyx with 20–60 well-marked parallel nerves. The inclusion of several species formerly classified as *Petrorhagia* (Ser.) Link and *Velezia* L. as suggested by Madhani et al. (2018) adds taxa with fewer (5–15) nerves [*D. candicus* (P.W.Ball & Heywood) Madhani & Heubl., *D. nudiflorus* Griff., *D. recticaulis* Ledeb., and *D. tunicoides* (Ser. ex DC.) Madhani & Heubl). Similarly, the calyx in three of these taxa possesses scarious commissures (*D. candicus*, *D. recticaulis*, *D. tunicoides*) whereas these are missing in *Dianthus* s. str., e.g. as circumscribed by Bittrich (1993), and in *Velezia*. The corolla consists of five distinct petals, with distinct blade and claw. Contrary to the long and pale claw, the limb is brightly coloured (red/pink/purple, yellow) in most species, rarely white. The limb is entire, dentate to laciniate, fimbriate, and without coronal scales. Peltate seeds with a facial hilum and a straight embryo are a characteristic feature of *Dianthus* including *Velezia rigida* L. and apparently all species of *Petrorhagia* (Madhani et al. 2018).

The first infrageneric classification of *Dianthus* was published by Boissier (1867), who recognised six sections, or "sections naturales"; the names he used are considered unranked (Rabeler 1993): *D.* § 5. *Carthusiani* Boiss., *D.* § 4. *Dentati* Boiss., *D.* § 3. *Fimbriati* Boiss., *D.* § 2. *Leiopetali* Boiss. and *D.* § 1. *Verruculosi* Boiss., but this classification was based only on species occurring in the area of his Flora Orientalis. Williams (1893) developed a more comprehensive infrageneric classification system, but apparently did not consider Boissier's work. Williams described the morphology of the genus in detail and recognised three subgenera with eight sections and 22 subsections in total. The most widely used classification until today is the one of Pax and Hoffmann (1934), who recognised seven sections. An overview of the taxonomic history of *Dianthus* is given in Table 1.

The first overall molecular phylogenetic analysis of the Caryophyllaceae (Fior et al. 2006) included *D. furcatus* Balb. and *Dianthus seguieri* Vill. and showed *Velezia rigida* L. as sister to a *Dianthus* clade. Harbaugh et al. (2010) added *D. armeria* L. and an

Table 1. Summary of the infrageneric classification in *Dianthus* as presented by the respective treatments. The names are given as they were used by the authors, not considering some existing earlier names not used by them.

Boissier 1867	Williams 1885	Pax and Hoffmann 1934
	D. subg. *Carthusianastrum* F.N.Williams sect. *Armerium* F.N.Williams	*D.* subg. *Armeriastrum* (Ser.) Pax & K.Hoffm. sect. *Armerium* F.N.Williams
D. § 4. *Dentati* Boiss.	*D.* subg. *Carthusianastrum* F.N.Williams sect. *Suffruticosi* F.N.Williams	*D.* subg. *Armeriastrum* (Ser.) Pax & K.Hoffm. sect. *Suffruticosi* F.N.Williams
D. § 5. *Carthusiani* Boiss.	*D.* subg. *Carthusianastrum* F.N.Williams sect. *Carthusiani* (Boiss.) F.N.Williams [as "*Carthusianum*"]	*D.* subg. *Armeriastrum* (Ser.) Pax & K.Hoffm. sect. *Carthusiani* (Boiss.) F.N.Williams
	D. subg. *Caryophyllastrum* F.N.Williams sect. *Barbulatum* F.N.Williams	*D.* subg. *Caryophyllum* (Ser.) Pax & K.Hoffm. sect. *Barbulatum* F.N.Williams (*D.* sect. *Chamaegarophalon* Griseb.)
	D. subg. *Caryophyllastrum* F.N.Williams sect. *Caryophyllum* Ser. in Candolle	*D.* subg. *Caryophyllum* (Ser.) Pax & K.Hoffm. sect. *Eucaryophyllum* Graebn.
	D. subg. *Caryophyllastrum* F.N.Williams sect. *Imparjugum* F.N.Williams	
D. § 3. *Fimbriati* Boiss.	*D.* subg. *Caryophyllastrum* F.N.Williams sect. *Fimbriati* Boiss. ["*Fimbriatum*"]	*D.* subg. *Caryophyllum* (Ser.) Pax & K.Hoffm. sect. "*Plumaria*" Opiz
D. § 1. *Verruculosi* Boiss.	*D.* subg. *Caryophyllastrum* F.N.Williams sect. "*Tetralepides Leiopetala*" F.N.Williams	*D.* subg. *Caryophyllum* (Ser.) Pax & K.Hoffm. sect. "*Tetralepides Leiopetala*" F.N.Williams
D. § 2. *Leiopetali* Boiss.	*D.* subg. *Proliferastrum* F.N.Williams	in *Tunica* Ludw.

unidentified species of *Dianthus*, but found *Velezia* within the *Dianthus* clade that in turn was sister to *Petrorhagia saxifraga* (L.) Link. After including more species in their plastid and ITS datasets, Valente et al. (2010) concluded that *Dianthus* is monophyletic if *Velezia* is also included. However, this conclusion was premature with respect to *Petrorhagia* since Valente et al. represented this genus of > 30 species with only two species (*P. thessala* (Boiss.) P.W.Ball & Heywood and *P. prolifera* (L.) P.W.Ball & Heywood) as outgroup, not even including *P. saxifraga* (L.) Link, the type of *Petrorhagia*. Greenberg and Donoghue (2011) then largely confirmed these findings using five chloroplast regions (*matK*, *ndhF*, *trnL-trnF*, *trnQ-rps16*, *trnS-trnfM*) and nrITS, although their tree lacked crucial lineages within *Dianthus*.

In a recent synopsis of the genera of the tribe Caryophylleae, Madhani et al. (2018) formally extended the circumscription of *Dianthus* by three species of *Petrorhagia* and *Velezia rigida*, based on trees of plastid *rps16* and nrITS sequences and mapping of selected morphological characters. They recovered *P. armerioides* (Ser. ex DC.) P.W.Ball & Heywood as sister to *V. rigida* based on ITS but the support for a position of this lineage within *Dianthus* was weak (0.77 PP), and only six species of *Dianthus* were sampled, again lacking crucial lineages. Their *rps16* tree shows *Petrorhagia alpina* (Hablitz) P.W.Ball & Heywood, *P. armerioides*, and *P. candica* P.W.Ball & Heywood in a subclade that is nested in a *Dianthus* clade. However, only *Dianthus carthusianorum* L. (only supported by BI, 0.98 PP) and *D. armeria* were included and resolved as successive sisters, whereas *Velezia* was not sampled at all. Moreover, the fact that the authors used different taxa in their plastid and nuclear datasets, some of them crucial for determining generic concepts but represented in only one of the datasets, further limits firm conclusions. The wider circumscription of *Dianthus* proposed by Madhani et al. (2018) is not supported by a morphological synapomorphy because the peltate seeds and straight

embryos mentioned therein as important characters for diagnosing *Dianthus* are also found in *Petrorhagia*. The circumscription of *Dianthus* in particular with respect to *Petrorhagia* therefore remains to be clarified by analyses with an improved taxon sampling of both genera and also an increased character base that allows for better resolved trees and statistical support of relevant nodes. These investigations should also consider the Greek and Levant taxa of *Bolanthus* (Ser.) Rchb.. The genus was found closely related to *Dianthus* and *Petrorhagia* based on ITS and *rps16* (Zografidis et al. 2020), which includes *Bolanthus hirsutus* (Labill.) Barkoudah, the type of *Bolanthus*.

Valente et al. (2010) conducted the first comprehensive molecular analysis of *Dianthus*, based on partial *matK*, *psbA-trnK*, *trnH-psbA* and nrITS sequences from 104 species plus some representatives from *Velezia*, *Petrorhagia* and *Saponaria* L. Based on their trees, the authors annotated five major lineages within *Dianthus*. The first branching lineage largely comprised members of *D.* sect. *Armerium* F.N.Williams (e.g. *D. armeria*, *D. deltoides* L., *D. viscidus* Bory & Chaub.), followed by a *Velezia* clade (represented by three different samples of *V. rigida*), and a lineage called "Section *Verruculosi*" with *D. cyri* Fisch & C.A.Mey., *D. strictus* Banks ex Sol. and *D. tripunctatus* Sm. The majority of the species then appeared in a clade annotated as "Eurasian radiation" that was depicted as sister to an African clade. However, the Eurasian clade had almost no internal resolution.

Dianthus has received considerable interest from botanists in recent years, focusing on individual species groups and the description of new taxa or treatments in specific geographic areas (Balao et al. 2009; Kuzmina and Nersesyan 2012; Deniz et al. 2016; Ferrer Gallego and Laguna 2018; Oskay 2018; López-Jurado et al. 2019) and conservation (Kołodziejek et al. 2018; Cogoni et al. 2019). As a result, 54 species and 18 subspecies, mostly from the Euro-Mediterranean area, were described as new to science the last 15 years.

The absence of an overall phylogenetic tree of *Dianthus* as a prerequisite to break up the genus into workable units, in which species level relationships then can be studied in more detail with evolutionary methods, has so far limited the analysis of species limits in *Dianthus*. Also lacking is a comprehensive treatment or checklist, which would be fundamental to inform sampling and provide a basis for synthesising the existing information on *Dianthus*. Considering the wealth of new descriptions, we assumed that the diversity of *Dianthus* may in fact be considerably higher than 300 species as cited by Pax and Hoffmann (1934) and Bittrich (1993). *Dianthus* represents one of the major genera of the order Caryophyllales (Hernández-Ledesma et al. 2015), for which a globally consistent species-level taxonomic backbone is developed by the Caryophyllales Network, which also contributes to the treatments for World Flora Online (WFO, www.worldfloraonline.org) (Borsch et al. 2020).

As a starting point for this study, we took advantage of ongoing research activities in the context of the Caucasus Plant Biodiversity Initiative and the Flora of Greece project (http://portal.cybertaxonomy.org/flora-greece/intro), all covering geographic areas with high species diversity of the genus, and in which *Dianthus* is currently studied. In Greece, *Dianthus* is represented by 44 species and 43 subspecies, of which about half are endemic. Some of them are morphologically and geographically divergent, such as the *D. juniperinus* Sm. and *D. fruticosus* L. groups, which are woody chasmophytes oc-

curring mostly on the island of Crete (Dimopoulos et al. 2013). In the Caucasus, about sixty species are native, of which 20 are endemic (Kuzmina and Nersesyan 2012), and five further endemics occur in NE Turkey and SW Iran.

The specific objectives for this paper are therefore twofold: first, to generate an overall phylogenetic hypothesis for *Dianthus* that covers a broad spectrum of taxa, also extending to putative close relatives (e.g. *Petrorhagia*) to further test the monophyly of *Dianthus*. Due to the extremely low genetic diversity encountered in *Dianthus* as compared to other large genera of flowering plants (e.g. *Campanula*), we sequenced four plastid regions (*matK-trnK-psbA*, *rpl32-trnL*, *trnQ-rps16*) that were selected for high variability and hierarchical phylogenetic signal (Borsch and Quandt 2009) as well as to match existing datasets of Valente et al. (2010). We added nrITS to obtain data from a nuclear region that allows for some first insights to possible hybridisation and reticulate evolution.

The second specific objective is to provide an up-to-date taxonomic backbone for *Dianthus*. This was done using an import that integrated all electronically available sources from the World Flora Online. In this way, an already comprehensive name source was available that we then matched with recent treatments, e.g. major Floras published in the last thirty years, accounts of specific species groups, etc., to have a clear reference for accepting a name or putting it into synonymy. The checklist of *Dianthus* presented here will be also incorporated into the World Flora Online taxonomic backbone and will be updated whenever changes become necessary.

Considering the difficulty in species delimitation and the species diversity of *Dianthus*, we believe that our integrated approach to develop both a taxonomic backbone that includes all names belonging to the genus in a current, monophyletic circumscription, along with a traceable source for the taxon concepts used at species level, will be crucial to understanding evolutionary relationships and species diversification in space and time. Such information is also urgently needed from applied perspectives such as to assess the conservation status of many *Dianthus* species that are local or regional endemics and/or have a critical conservation status.

Methods

Taxon sampling and collection of plant material

Plant material was collected in the field or from well-documented accessions in the living collections of the Botanic Garden Berlin, and from herbarium specimens kept at the herbaria B and ERE. Information on the origin of all samples is provided in Appendix 1. Vouchers are deposited in B, ERE, HEID and UPA.

DNA extraction, amplification and sequencing

Total genomic DNA was extracted from silica-dried leaf material using the NucleoSpin Plant II kit (Macherey Nagel, Düren, Germany) and from herbarium samples using

a CTAB protocol with triple extractions (Borsch et al. 2003). DNA fragments were amplified through polymerase chain reaction (PCR) in 50 µl volumes, containing 4 µl of DNA template (concentration c. 10 ng/µl), 5 µl Taq buffer S (PeqLab, Erlangen, Germany), 2 µl of each primer (20 pm/µl), 10 µl dNTPs (each 1.25 mM), 1.5 units of Hot Taq DNA Polymerase (PeqLab), and ultrapure water.

The *matK-trnK-psbA* region was amplified in overlapping halves using the primer pair trnK-F (Wicke and Quandt 2009) and CARYmatK-1440R (Schäferhoff et al. 2009) for the 3' fragment and ACmatK500F (Müller and Borsch 2005), and psbA5'R (Shaw et al. 2005) for the 5' fragment. The use of the reverse primer psbA5'R that anneals to the psbA gene allows the full sequence at the 5' end of the *trnK* intron to be obtained and additionally covers the *trnK-psbA* intergenic spacer. Amplification conditions were: an initial denaturation step of 1 min 30 sec at 96 °C, followed by 34 cycles of denaturation (30 sec at 95 °C), annealing (1 min at 50 °C), extension (1 min 30 sec at 72 °C), and a final extension step (20 min at 72 °C).

The *rpl32-trnL* IGS was amplified using the primers rpl32-F and trnL-UAG (Shaw et al. 2007) and the *trnQ-rps16* IGS was amplified using the primers trnQ2 (Korotkova et al. 2010) and rpl16x1 (Shaw et al. 2007). The PCR conditions were as for *matK-trnK-psbA*, except that the extension step was only 1 minute. ITS was amplified using the primers ITS5 and ITS4 (White et al. 1990), amplification conditions were: 35 cycles of denaturation (1 min at 97 °C), annealing (1 min at 48 °C) and extension (45 s at 72 °C), and a final extension step (7 min at 72 °C).

All PCR products were electrophoresed for 2 hours on a 2% agarose gel and then excised and purified using the Geneaid Gel/PCR DNA Fragments Extraction Kit (Geneaid Biotech Ltd., New Taipei City, Taiwan) and sequenced via standard Sanger sequencing at Macrogen Europe (Amsterdam, The Netherlands). Chromatograms were inspected by eye, erroneous nucleotide calls were manually corrected, and final sequences were assembled using PhyDE v. 0.9971 (Müller et al. 2005+). All sequences were submitted to the European Nucleotide Archive (ENA) https://www.ebi.ac.uk/ena/browser/home under the projects PRJEB48120, PRJEB43752.

Sequence alignment, indel coding and model selection

DNA sequences were aligned in PhyDE following a motif alignment approach and the rules laid out by Löhne and Borsch (2005). Homonucleotide stretches and parts of uncertain homology were excluded from the final matrix prior to the analyses. Indels were coded according to the scheme "Simple Indel Coding" (Simmons and Ochoterena 2000) in SeqState v.1.40 (Müller 2005b).

Phylogenetic analyses

Best-fitting models of nucleotide substitution were selected via the Akaike Information Criterion in jModeltest v.2.1.6 (Darriba et al. 2012). The models that were found to best fit the given DNA sequence data are listed in Table 2. Phylogenetic reconstruc-

tions were performed via Maximum Likelihood (ML) and Bayesian Inference (BI). Jackknife (JK) node support was additionally calculated under parsimony in PAUP* v.4.0b10 (Swofford 1998) with 10,000 replicates, branch swapping via tree-bisection-reconnection, a deletion of 36.8% of all characters during replicates, and a retention of one tree per replicate (Müller 2005a).

Tree inference under ML was conducted on the concatenated alignment with RAxML v.8.2.9 (Stamatakis 2014) using the thorough ML optimisation option. The dataset was analysed as a single partition under the nucleotide substitution model GTR+I+G, with branch lengths linked across partitions. Branch support for the ML inference was calculated via 100 bootstrap (BS) replicates using the rapid BS algorithm (Stamatakis et al. 2008).

Bayesian Inference (BI) was conducted with MrBayes v.3.2.2 (Ronquist and Huelsenbeck 2003), using four parallel Markov Chain Monte Carlo (MCMC) runs for a total of 10 million generations on CIPRES. The initial 25% of all MCMC trees were discarded as burn-in, and post-burn-in trees were summarised as majority rule consensus trees. Datasets for BI comprised both DNA sequence data and coded indels; the binary character model was applied for the indel partition. All trees were visualised via TreeGraph2 (Stöver and Müller 2010).

Compilation of the *Dianthus* checklist

The checklist was compiled using the EDIT Platform for Cybertaxonomy (cybertaxonomy.org) (Ciardelli et al. 2009; Berendsohn 2010), which is a suite of open-source software tools and services that covers all aspects of an integrative taxonomic workflow and include tools to capture, process, attribute, document, publish and maintain the data. This way, the already existing interaction with the Global Caryophyllales Synthesis initiative (Borsch et al. 2015) can be used and future dynamic updating is guaranteed.

As a first step, a complete list of *Dianthus* names and their respective World Flora Online (WFO)-IDs were received from the WFO Data Centre in February 2018 and imported into the EDIT Platform. This import included names accepted in the WFO

Table 2. Sequence characteristics of the individual partitions in the plastid dataset. SD = standard deviation.

	rpl32-trnL	*trnQ-rps16*	*trnK intron*	*matK* CDS	*trnK-psbA*	ITS
Dataset including hotspots						
Number of sequences	202	202	202	202	202	145
Aligned length	1372	1166	1229	1536	270	714
Mean length (SD)	786 (89)	688 (120)	815 (163)	1406 (332)	195 (95)	674 (33)
Dataset excluding hotspots						
Aligned length	1236	1068	1186	1537	270	714
Mean length (SD)	755 (78)	653 (114)	793 (160)	1405 (332)	195 (95)	674 (33)
% variable characters	31.5	23.6	16.8	22.4	16.2	33.3
% informative characters	18.8	8.3	5.3	8.8	4.4	27.5
Number of coded indels	106	102	52	17	10	43
jModeltest v.2.1.6, AIC results	GTR+G	TPM1uf+G	TPM1uf+I+G	TPM1uf+I+G	--	SYM+I+G

backbone, their synonyms therein, doubtful names, and names of hybrids, and each of these taxonomic states was preliminarily assigned to the imported names. This dataset was then matched with the World Checklist of Vascular Plants dataset received from the Royal Botanic Gardens, Kew in December 2019 (Kew WCVP 2019), which resulted in some 181 additional, mostly infraspecific names, not yet covered by the WFO backbone, which were manually entered into the EDIT platform as well.

This preliminary list of accepted names and their synonyms was then cross-checked with relevant taxonomic treatments (see below). The resulting circumscription of each taxon is indicated by means of a "secundum" ("sec.") reference (Berendsohn 1995; 1997; Berendsohn and Geoffroy 2007), which is the particular reference for the taxon to be accepted in our taxonomic backbone. For synonyms, the "syn. sec." reference indicates the assignment of the synonym to the concept of either the accepted name or one of its homotypic synonyms; this may or may not be the same reference as that of the taxon's secundum. We selected the secundum reference to be the most comprehensive source of information available for a species or subspecies. Ideally, this was a monographic treatment based on morphology and a detailed revision of type material, as carried out for some Floras. In those cases where a newly described species had not yet been included in any subsequent more inclusive treatment, the original publication served as the secundum reference. The references used as secundum for the Euro-Mediterranean area in the widest sense included the treatments of *Dianthus* in the Euro+Med PlantBase (Marhold 2011), Flora Iberica (Bernal et al. 1990), Vascular Plants of Greece: an annotated checklist (Dimopoulos et al. 2013) and Flora Iranica (Rechinger 1988). Several checklists and Floras were examined for Russia and the Caucasus (Czerepanov 1995; Barkalov and Probatova 2006; Chepinoga et al. 2008; Kuzmina and Nersesyan 2012). For eastern Asia, the sources were the Floras of China (Dequan and Turland 2001), Japan (Zoku 1965) and Pakistan (Ghanzafar and Nasir 1986). The African Plant Database version 3.4.0 (2012) was taken as the primary reference for the African species. These references already covered about 90% of the *Dianthus* species. Further publications reporting taxonomic data were used, such as descriptions of new species (Brullo et al. 2000; Shaulo and Erst 2011; Brullo et al. 2015; Son et al. 2017), nomenclatural notes on certain species or species groups (Peruzzi and Gargano 2006; Bacchetta et al. 2010) and studies on species in single countries (Iamonico 2013; Lazkov 2016). Many new *Dianthus* species were described from Turkey in the last 10–15 years, which were considered through the respective publications (Menemen and Hamzaoğlu 2000; İlçim et al. 2013; Hamzaoğlu et al. 2015; 2017; 2018; Deniz et al. 2016).

In the rare cases of differing taxonomic concepts, we accepted the circumscription with the respective secundum reference that was either the most recent one or the one covering the area where the accepted taxon in question is primarily distributed.

Names that were part of the WFO backbone, treated therein as unresolved names and not found in any of the sources cited above, were also treated as unresolved names in our checklist.

Results

Sequence datasets

The concatenated plastid alignment matrix comprised a total of 202 taxa and 5573 positions, which resulted in a matrix of 5297 nucleotide characters and 287 coded indels. The ITS matrix contained only 136 taxa and was 714 nucleotides in length, with an average length of 674 nucleotides. There were polymorphic sites in about one-third of the generated ITS sequences, including some obvious hybrid sequences which were not readable. For this reason, the ITS matrix only includes unambiguously readable sequences and is therefore smaller than the plastid matrix. Detailed sequence statistics are provided in Table 2.

Trees inferred from the concatenated plastid dataset

Our annotation in the phylogenetic trees uses accepted names as available prior to this study; new names or combinations in order to make *Dianthus* monophyletic are provided below.

The plastid tree (Fig. 1) depicts a maximally supported clade comprising all sampled *Dianthus* taxa as well as *Velezia* and several *Petrorhagia*, which are nested within *Dianthus*. *Petrorhagia alpina* (= *Dianthus recticaulis* Ledeb.) is resolved as sister to the rest of the *Dianthus-Velezia-Petrorhagia* clade. The other *Petrorhagia* samples are resolved in a separate highly supported clade including *P. saxifraga*, the type species of the genus, with *Bolanthus graecus* (Schreb.) Barkoudah sister to the rest of *Petrorhagia*.

A *Dianthus armeria* clade (1 PP, 98% MLBS and 100% JK) is the first branching lineage. The next branching lineages are *Velezia*, *Dianthus candicus*, and a clade comprising *Dianthus cyri*, *D. strictus*, *D. tunicoides* and two further species of *Petrorhagia* (*P. cretica* (L.) P.W.Ball & Heywood and *P. illyrica* (Ard.) P.W.Ball & Heywood). However, the branching order among these clades only receives moderate (BI) to weak support.

The core of *Dianthus* that includes most species (1 PP, 69% MLBS and 65% JK) is composed of three main clades. Clade A (1 PP, < 50% MLBS) contains a wide spectrum of Eurasian taxa. Clade B (1 PP, 90% MLBS and 87% JK) contains mainly Irano-Turanian and Caucasian taxa and all species from southern Africa. Clade C (1 PP, 61% MLBS and 67% JK) consists of *Dianthus juniperinus* and most subspecies of *D. fruticosus*, but *D. fruticosus* subsp. *amorginus* Runemark, subsp. *fruticosus*, and subsp. *rhodius* (Rech. f.) Runemark are resolved in a sublineage of clade A.

Trees inferred from nrITS

The ITS topology (Fig. 2) is hardly resolved at all. Still, the tree depicts a well-resolved core of species of *Petrorhagia* in a clade sister to the *Dianthus* clade. *Dianthus recticaulis* (= *Petrorhagia alpina*) is again depicted as first branch, followed by the *D. armeria* lineage, which is congruent to the plastid tree. *Dianthus cyri*, the species of *Velezia*,

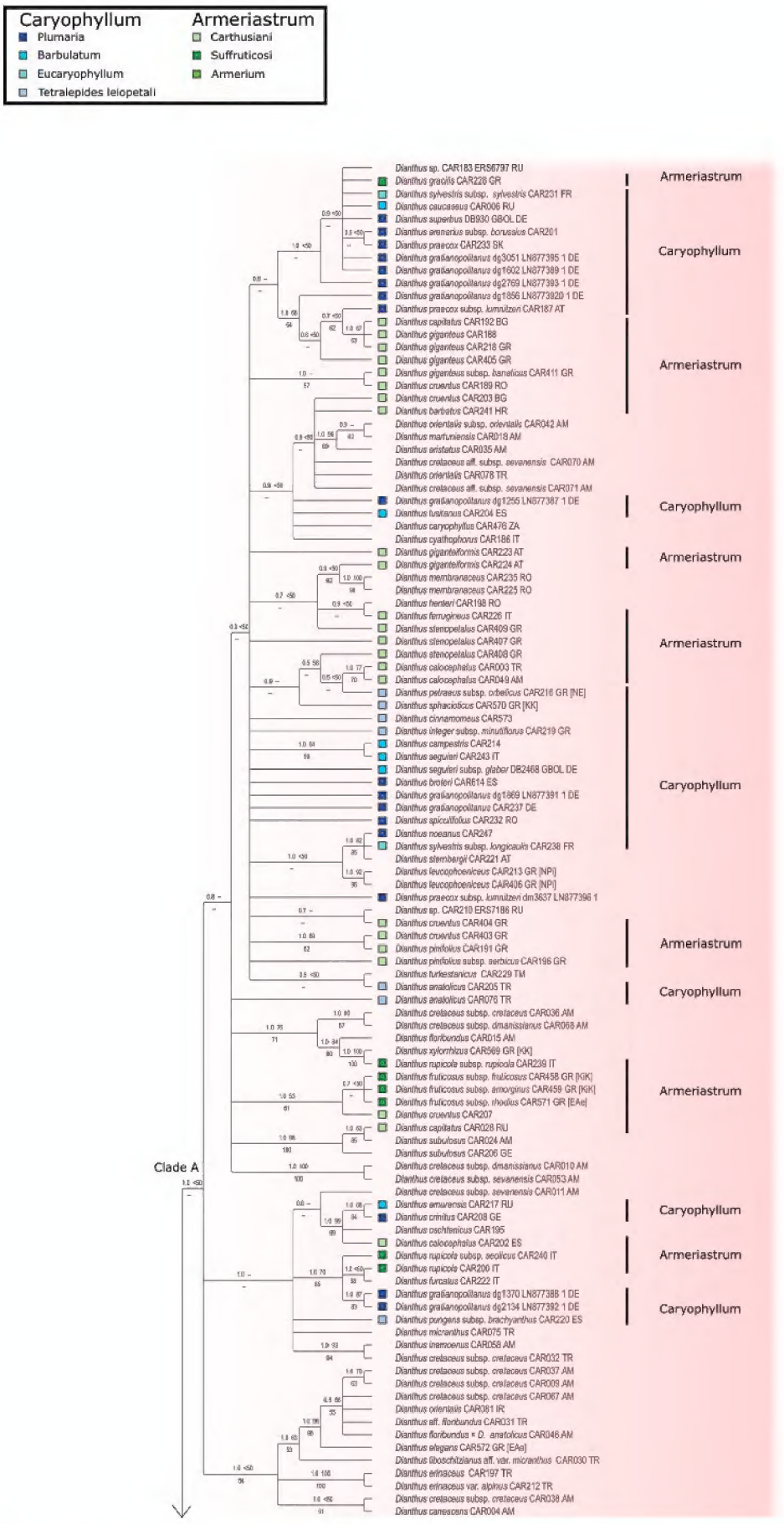

Caryophyllum
Plumaria
Barbulatum
Eucaryophyllum
Tetralepides leiopetali
Armeriastrum
Carthusiani
Suffruticosi
Armerium
Dianthus sp. CAR183 ERS6797 RU
Dianthus gracilis CAR228 GR
Dianthus sylvestris subsp. sylvestris CAR231 FR
Dianthus caucasseus CAR006 RU
Dianthus superbus DB930 GBOL DE
Dianthus arenarius subsp. borussicus CAR201
Dianthus praecox CAR233 SK
Dianthus graßianopolitanus dg3051 LN877395 1 DE
Dianthus graßianopolitanus dg1602 LN877389 1 DE
Dianthus graßianopolitanus dg2769 LN877393 1 DE
Dianthus graßianopolitanus dg1856 LN8773920 1 DE
Dianthus praecox subsp. kitmulzeri CAR187 AT
Dianthus capitatus CAR192 BG
Dianthus giganteus CAR188
Dianthus giganteus CAR218 GR
Dianthus giganteus CAR405 GR
Dianthus giganteus subsp. banaticus CAR411 GR
Dianthus cruentus CAR189 RO
Dianthus cruentus CAR203 BG
Dianthus barbatus CAR241 HR
Dianthus orientalis subsp. orientalis CAR042 AM
Dianthus martinensis CAR018 AM
Dianthus aristatus CAR035 AM
Dianthus cretaceus aff. subsp. sevanensis CAR070 AM
Dianthus orientalis CAR078 TR
Dianthus cretaceus aff. subsp. sevanensis CAR071 AM
Dianthus graßianopolitanus dg1255 LN877387 1 DE
Dianthus lusitanus CAR204 ES
Dianthus caryophyllus CAR476 ZA
Dianthus cyathophorus CAR186 IT
Dianthus gigantiformis CAR223 AT
Dianthus gigantiformis CAR224 AT
Dianthus membranaceus CAR235 RO
Dianthus membranaceus CAR225 RO
Dianthus henteri CAR198 RO
Dianthus ferrugineus CAR226 IT
Dianthus stenopetalus CAR409 GR
Dianthus stenopetalus CAR407 GR
Dianthus stenopetalus CAR408 GR
Dianthus calocephalus CAR003 TR
Dianthus calocephalus CAR049 AM
Dianthus petraeus subsp. orbelicus CAR216 GR [NE]
Dianthus sphacioticus CAR570 GR [KK]
Dianthus cinnamomeus CAR573
Dianthus integer subsp. minutiflorus CAR219 GR
Dianthus campestris CAR214
Dianthus seguieri CAR243 IT
Dianthus seguieri subsp. glaber DB2468 GBOL DE
Dianthus broteri CAR614 ES
Dianthus graßianopolitanus dg1869 LN877391 1 DE
Dianthus graßianopolitanus CAR237 DE
Dianthus spiculifolius CAR232 RO
Dianthus noeanus CAR247
Dianthus sylvestris subsp. longicaulis CAR238 FR
Dianthus sternbergii CAR221 AT
Dianthus leucophoeniceus CAR213 GR [NPi]
Dianthus leucophoeniceus CAR406 GR [NPi]
Dianthus praecox subsp. kitmulzeri dm3637 LN877396 1
Dianthus sp. CAR210 ERS7198 RU
Dianthus cruentus CAR404 GR
Dianthus cruentus CAR403 GR
Dianthus pinifolius CAR191 GR
Dianthus pinifolius subsp. serbicus CAR196 GR
Dianthus turkestanicus CAR229 TM
Dianthus anatolicus CAR205 TR
Dianthus anatolicus CAR076 TR
Dianthus cretaceus subsp. cretaceus CAR036 AM
Dianthus cretaceus subsp. dmanissianus CAR068 AM
Dianthus floribundus CAR015 AM
Dianthus xylorrhizus CAR569 GR [KK]
Dianthus rupicola subsp. rupicola CAR239 IT
Dianthus fruticosus subsp. fruticosus CAR458 GR [KiK]
Dianthus fruticosus subsp. armeriastrum CAR459 GR [KiK]
Dianthus fruticosus subsp. rhodius CAR571 GR [EAe]
Dianthus cruentus CAR207
Dianthus capitatus CAR028 RU
Dianthus subulosus CAR024 AM
Dianthus subulosus CAR206 GE
Dianthus cretaceus subsp. dmanissianus CAR010 AM
Dianthus cretaceus subsp. sevanensis CAR053 AM
Dianthus cretaceus subsp. sevanensis CAR011 AM
Dianthus amurensis CAR217 RU
Dianthus crinitus CAR208 GE
Dianthus oschtenicus CAR195
Dianthus calocephalus CAR202 ES
Dianthus rupicola subsp. seolicus CAR240 IT
Dianthus rupicola CAR200 IT
Dianthus furcatus CAR222 IT
Dianthus graßianopolitanus dg1370 LN877388 1 DE
Dianthus graßianopolitanus dg2134 LN877392 1 DE
Dianthus pungens subsp. brachyanthus CAR220 ES
Dianthus micranthus CAR075 TR
Dianthus inamoenus CAR058 AM
Dianthus cretaceus subsp. cretaceus CAR032 TR
Dianthus cretaceus subsp. cretaceus CAR037 AM
Dianthus cretaceus subsp. cretaceus CAR009 AM
Dianthus cretaceus subsp. cretaceus CAR067 AM
Dianthus orientalis CAR081 IR
Dianthus aff. floribundus CAR031 TR
Dianthus floribundus × D. anatolicus CAR046 AM
Dianthus elegans CAR572 GR [EAe]
Dianthus liboschitzianus aff. var. micranthus CAR030 TR
Dianthus erinaceus CAR197 TR
Dianthus erinaceus var. alpinus CAR212 TR
Dianthus cretaceus subsp. cretaceus CAR038 AM
Dianthus canescens CAR004 AM
Clade A
Armeriastrum
Caryophyllum
Armeriastrum
Caryophyllum
Armeriastrum
Caryophyllum
Armeriastrum
Caryophyllum
Armeriastrum
Caryophyllum

Figure 1. Bayesian majority-rule consensus tree inferred from combined plastid dataset of *trnK/matK*, *trnK-psbA*, *trnQ-rps16*, *rpl32-trnL*. Support values PP (left) and MLBS (right) can be found above branches and JK below; "<50" denotes branches with MLBS support below 50%, "--" denotes a node not found by the respective analysis. Country codes: AM = Armenia, AT = Austria, AZ = Azerbaijan, BG = Bulgaria, CY = Cyprus, DE = Germany, ES = Spain, FR = France, GE = Georgia, GR = Greece (NE = North East, NC = North Central, KK = Kriti and Karpathos, StE = Sterea Ellas, NPi = Norh Pindos, EAe = East Aegean Islands, Pe = Peloponnisos), HR = Croatia, IR = Iran, IT = Italy, RO = Romania, RU = Russia, SK = Slovakia, TR = Turkey, ZA = South Africa. The annotations on the infrageneric classification based on Pax and Hoffmann (1934) are indicated by coloured squares.

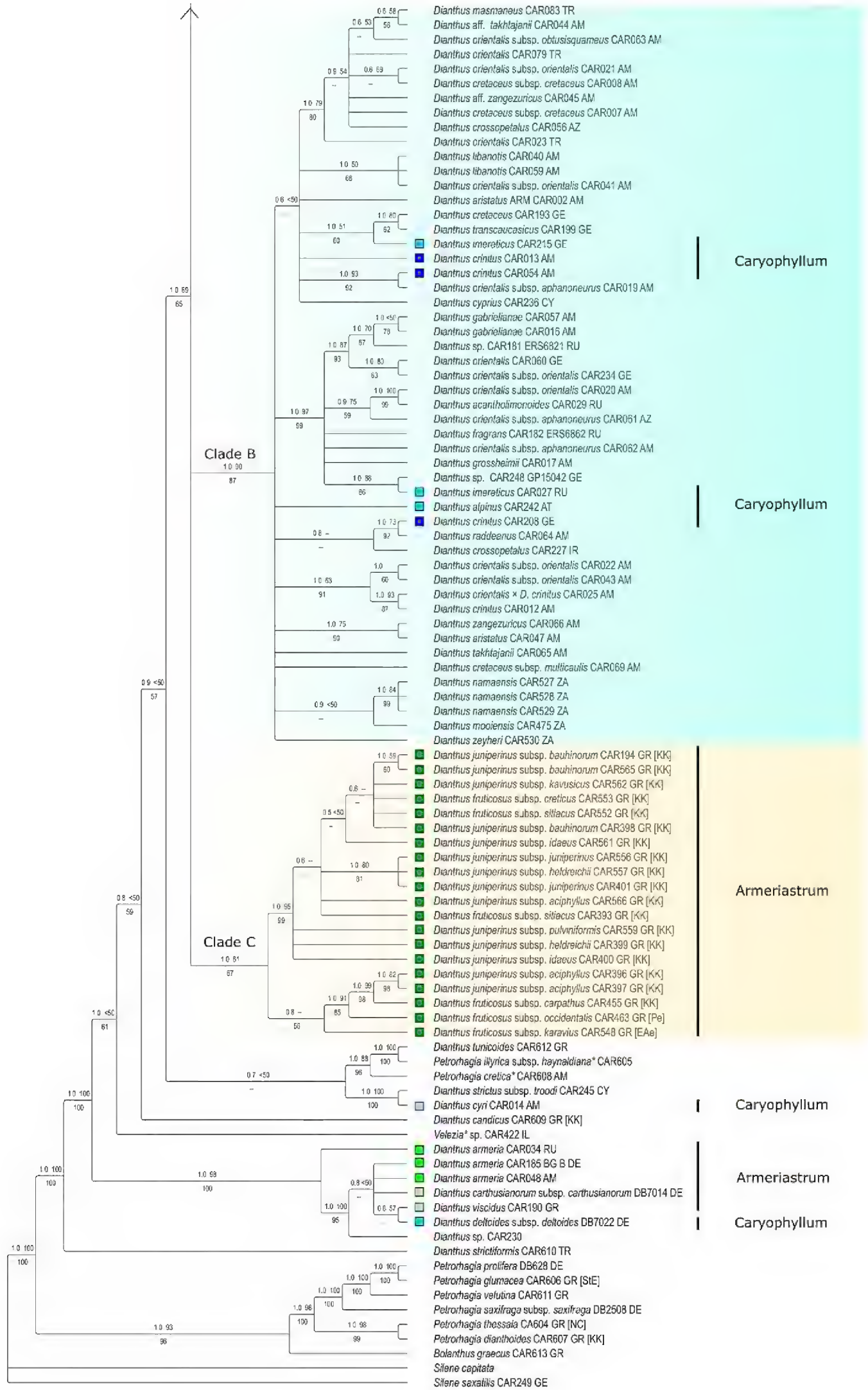

Clade B
Clade C
Caryophyllum
Armeriastrum
Caryophyllum
Armeriastrum
Caryophyllum
Dianthus masmaneus CAR083 TR
Dianthus aff. takhtajanii CAR044 AM
Dianthus orientalis subsp. obtusisquameus CAR063 AM
Dianthus orientalis CAR079 TR
Dianthus orientalis subsp. orientalis CAR021 AM
Dianthus cretaceus subsp. cretaceus CAR008 AM
Dianthus aff. zangezuricus CAR045 AM
Dianthus cretaceus subsp. cretaceus CAR007 AM
Dianthus crossopetalus CAR056 AZ
Dianthus orientalis CAR023 TR
Dianthus libanotis CAR040 AM
Dianthus libanotis CAR059 AM
Dianthus orientalis subsp. orientalis CAR041 AM
Dianthus aristatus ARM CAR002 AM
Dianthus cretaceus CAR193 GE
Dianthus transcaucasicus CAR199 GE
Dianthus imereticus CAR215 GE
Dianthus crinitus CAR013 AM
Dianthus crinitus CAR054 AM
Dianthus orientalis subsp. aphanoneurus CAR019 AM
Dianthus cyprius CAR236 CY
Dianthus gabrielianae CAR057 AM
Dianthus gabrielianae CAR015 AM
Dianthus sp. CAR181 ERS6821 RU
Dianthus orientalis CAR060 GE
Dianthus orientalis subsp. orientalis CAR234 GE
Dianthus orientalis subsp. orientalis CAR020 AM
Dianthus acantholimonoides CAR029 RU
Dianthus orientalis subsp. aphanoneurus CAR061 AZ
Dianthus fragrans CAR182 ERS6862 RU
Dianthus orientalis subsp. aphanoneurus CAR062 AM
Dianthus grossheimii CAR017 AM
Dianthus sp. CAR248 GP15042 GE
Dianthus imereticus CAR027 RU
Dianthus alpinus CAR242 AT
Dianthus crinitus CAR208 GE
Dianthus raddeanus CAR064 AM
Dianthus crossopetalus CAR227 IR
Dianthus orientalis subsp. orientalis CAR022 AM
Dianthus orientalis subsp. orientalis CAR043 AM
Dianthus orientalis × D. crinitus CAR025 AM
Dianthus crinitus CAR012 AM
Dianthus zangezuricus CAR066 AM
Dianthus aristatus CAR047 AM
Dianthus takhtajanii CAR065 AM
Dianthus cretaceus subsp. multicaulis CAR069 AM
Dianthus namaensis CAR527 ZA
Dianthus namaensis CAR528 ZA
Dianthus namaensis CAR529 ZA
Dianthus mooiensis CAR475 ZA
Dianthus zeyheri CAR530 ZA
Dianthus juniperinus subsp. bauhinorum CAR194 GR [KK]
Dianthus juniperinus subsp. bauhinorum CAR565 GR [KK]
Dianthus juniperinus subsp. kavusicus CAR562 GR [KK]
Dianthus fruticosus subsp. creticus CAR553 GR [KK]
Dianthus fruticosus subsp. sitiacus CAR552 GR [KK]
Dianthus juniperinus subsp. bauhinorum CAR398 GR [KK]
Dianthus juniperinus subsp. idaeus CAR561 GR [KK]
Dianthus juniperinus subsp. juniperinus CAR556 GR [KK]
Dianthus juniperinus subsp. heldreichii CAR557 GR [KK]
Dianthus juniperinus subsp. juniperinus CAR401 GR [KK]
Dianthus juniperinus subsp. aciphyllus CAR566 GR [KK]
Dianthus fruticosus subsp. sitiacus CAR393 GR [KK]
Dianthus juniperinus subsp. pulviniformis CAR559 GR [KK]
Dianthus juniperinus subsp. heldreichii CAR399 GR [KK]
Dianthus juniperinus subsp. idaeus CAR400 GR [KK]
Dianthus juniperinus subsp. aciphyllus CAR396 GR [KK]
Dianthus juniperinus subsp. aciphyllus CAR397 GR [KK]
Dianthus fruticosus subsp. carpathus CAR455 GR [KK]
Dianthus fruticosus subsp. occidentalis CAR463 GR [Pe]
Dianthus fruticosus subsp. karavius CAR548 GR [EAe]
Dianthus tunicoides CAR612 GR
Petrorhagia illyrica subsp. haynaldiana* CAR605
Petrorhagia cretica* CAR608 AM
Dianthus strictus subsp. troodi CAR245 CY
Dianthus cyri CAR014 AM
Dianthus candicus CAR609 GR [KK]
Velezia* sp. CAR422 IL
Dianthus armeria CAR034 RU
Dianthus armeria CAR185 BG B DE
Dianthus armeria CAR048 AM
Dianthus carthusianorum subsp. carthusianorum DB7014 DE
Dianthus viscidus CAR190 GR
Dianthus deltoides subsp. deltoides DB7022 DE
Dianthus sp. CAR230
Dianthus strictiformis CAR610 TR
Petrorhagia prolifera DB628 DE
Petrorhagia glumacea CAR606 GR [StE]
Petrorhagia velutina CAR611 GR
Petrorhagia saxifraga subsp. saxifraga DB2508 DE
Petrorhagia thessala CA604 GR [NC]
Petrorhagia dianthoides CAR607 GR [KK]
Bolanthus graecus CAR613 GR
Silene capitata
Silene saxatilis CAR249 GE

Figure 1. Continued.

Dianthus tunicoides along with *Petrorhagia cretica* and *P. illyrica* are found in a weakly supported clade, inconsistent to their positions in a rather weakly supported grade in the plastid tree. *Bolanthus* (= *Graecobolanthus*) is resolved in the first branch in the tree, albeit with weak support (0.7 BI, 66% JK).

Unlike the plastid sequences, ITS sequence data do not provide resolution within the core of *Dianthus*, although some subclades are evident within a broad polytomy (Fig. 2). The lineage with subspecies of *D. juniperinus* together with *D. fruticosus* subsp. *sitiacus* Runemark corresponds to subclade C in the plastid tree, whereas neither the *D. broteri* Boiss. & Reut. - *D. rupicola* Biv. - *D. lusitanus* Brot. subclade of the ITS tree nor the subclade with *D. caucaseus* Sims, *D. gabrielianae* Nersesian and *D. oschtenica* are recovered by plastid data. Also, the southern African species (e.g. *D. mooiensis* F. N. Williams, *D. zeyheri* Sond) appear within the core polytomy in ITS.

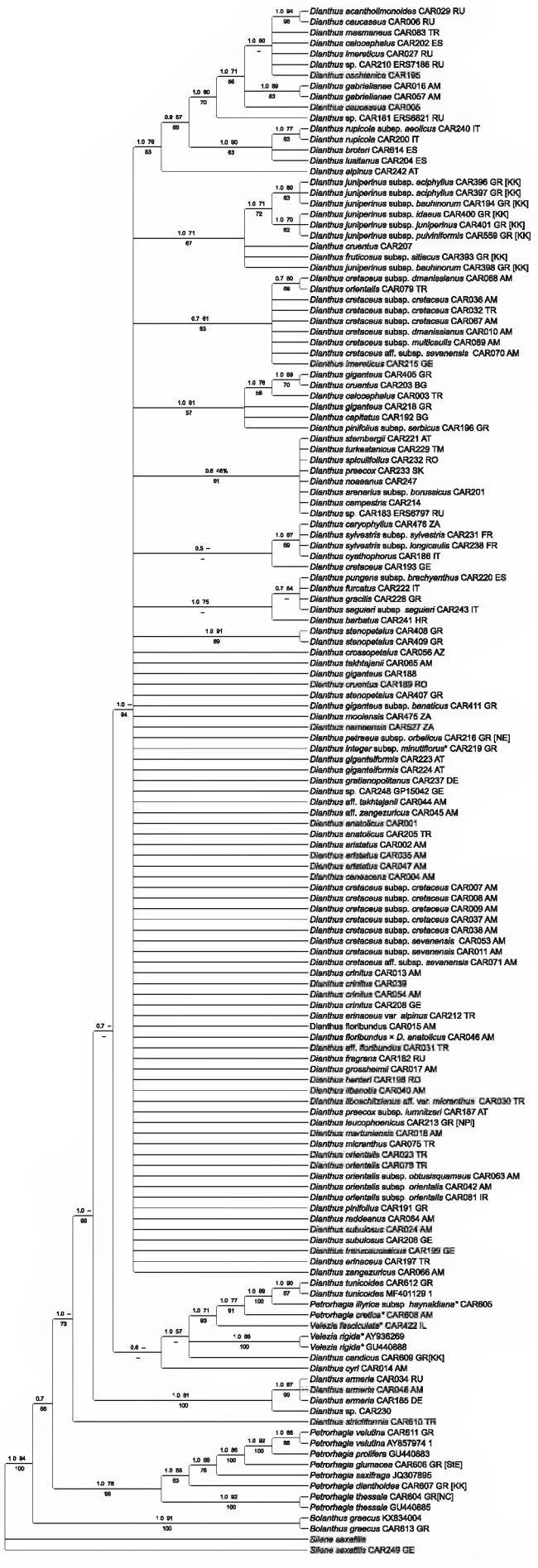
Accepted species names and synonyms

In total, 1781 names are included for a monophyletic genus *Dianthus* as defined here, including *Petrorhagia* p.p. and *Velezia*. The resulting checklist treatment is subdivided into four parts: i) the core checklist that contains the accepted species and infraspecies and their synonyms, ii) hybrid names, iii) unresolved names and iv) excluded names. The core checklist of *Dianthus* including 2 former *Petrorhagia* species and 3 heterotypic subspecies and 6 former *Velezia* species contains 384 total accepted species and 150 accepted heterotypic subspecies, and 1050 names are assigned as synonyms. There are 22 hybrid names, 172 unresolved names, and 3 excluded names.

Discussion

Circumscription and overall relationships of *Dianthus*

Plastid and nuclear data agree on a *Dianthus* clade that includes *Velezia* and further species of *Petrorhagia* (*P. cretica*, *P. illyrica*) as deeply nested (Figs 1, 2) that were not sampled in previous phylogenetic analyses (Valente et al. 2010; Madhani et al. 2018). It is noteworthy that *Dianthus recticaulis* is resolved as sister to all other species of *Dianthus* in both genomic compartments with good support. It is an annual with solitary flowers on conspicuous peduncles (Ball and Heywood 1964) similar to *P. cretica* (Fig. 4A, B). The inflorescence architecture is apparently connected to the annual life form, which evolved independently in different terminal branches in *Dianthus* and allies. *Dianthus recticaulis* is the legitimate name for *P. alpina*, while *Dianthus strictiformis* that was proposed as a new name for *Petrorhagia alpina* by Madhani et al. (2018) is superfluous and illegitimate (Mosyakin and Federonchuk 2018). Their plastid *rpl16* tree, however, depicts this species in an incongruent position as sister to *P. candica* (also transferred to *Dianthus* by the authors), but this may be a spurious signal caused by an imbalanced sampling of *Dianthus* (both species appear nested within the *D. armeria*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Dianthus caucaseus CAR006 RU
Dianthus masmaneus CAR083 TR
Dianthus celsiocephalus CAR202 ES
Dianthus lmeretlcus CAR027 RU
Dianthus sp. CAR210 ERS7186 RU
Dianthus caucaseus CAR005
Dianthus sp. CAR161 ERS6821 RU
Dianthus rupicola subsp. aecilcus CAR240 IT
Dianthus rupicola CAR200 IT
Dianthus broteri CAR614 ES
Dianthus lusitanus CAR204 ES
Dianthus alpinus CAR242 AT
Dianthus juniperinus subsp. sciphyllus CAR396 GR [KK]
Dianthus juniperinus subsp. sciphyllus CAR397 GR [KK]
Dianthus juniperinus subsp. bauhinorum CAR194 GR [KK]
Dianthus juniperinus subsp. idaeus CAR400 GR [KK]
Dianthus juniperinus subsp. juniperinus CAR401 GR [KK]
Dianthus juniperinus subsp. pulviniformis CAR559 GR [KK]
Dianthus cruentus CAR207
Dianthus fruticosus subsp. sitiacus CAR393 GR [KK]
Dianthus juniperinus subsp. bauhinorum CAR398 GR [KK]
Dianthus cretaceus subsp. dmanisianus CAR068 AM
Dianthus orientalis CAR079 TR
Dianthus cretaceus subsp. cretaceus CAR036 AM
Dianthus cretaceus subsp. cretaceus CAR032 TR
Dianthus cretaceus subsp. cretaceus CAR067 AM
Dianthus cretaceus subsp. dmanisianus CAR010 AM
Dianthus cretaceus subsp. multicaulis CAR069 AM
Dianthus cretaceus aff. subsp. sevanensis CAR070 AM
Dianthus lmeretlcus CAR215 GE
Dianthus gigantcus CAR405 GR
Dianthus cruentus CAR203 BG
Dianthus celsiocephalus CAR003 TR
Dianthus gigantcus CAR218 GR
Dianthus capitatus CAR192 BG
Dianthus pinifolius subsp. serbicus CAR196 GR
Dianthus sternbergii CAR221 AT
Dianthus turkestanicus CAR229 TM
Dianthus spiculifolius CAR232 RO
Dianthus praecox CAR233 SK
Dianthus noeanus CAR247
Dianthus arenarius subsp. borussicus CAR201
Dianthus campestris CAR214
Dianthus sp. CAR183 ERS6797 RU
Dianthus caryophyllus CAR476 ZA
Dianthus sylvestris subsp. sylvestris CAR231 FR
Dianthus sylvestris subsp. longicaulis CAR238 FR
Dianthus cyathophorus CAR186 IT
Dianthus cretaceus CAR193 GE
Dianthus pungens subsp. brachyanthus CAR220 ES
Dianthus furcatus CAR222 IT
Dianthus gracilis CAR228 GR
Dianthus seguieri subsp. seguieri CAR243 IT
Dianthus barbatus CAR241 HR
Dianthus stenopetalus CAR408 GR
Dianthus stenopetalus CAR409 GR
Dianthus crossopetalus CAR056 AZ
Dianthus tekhtajanii CAR065 AM
Dianthus gigantcus CAR188
Dianthus cruentus CAR189 RO
Dianthus stenopetalus CAR407 GR
Dianthus gigantcus subsp. banaticus CAR411 GR
Dianthus moelensis CAR475 ZA
Dianthus namaensis CAR527 ZA
Dianthus petraeus subsp. orbelicus CAR216 GR [NE]
Dianthus integer subsp. minutiflorus* CAR219 GR
Dianthus gigantelformis CAR223 AT
Dianthus gigantelformis CAR224 AT
Dianthus gratianopolitanus CAR237 DE
Dianthus sp. CAR248 GP15042 GE
Dianthus aff. tekhtajanii CAR044 AM
Dianthus aff. zangezuricus CAR045 AM
Dianthus anatolicus CAR001
Dianthus anatolicus CAR205 TR
Dianthus aristatus CAR002 AM
Dianthus aristatus CAR035 AM
Dianthus aristatus CAR047 AM
Dianthus caesaeus CAR004 AM
Dianthus cretaceus subsp. cretaceus CAR007 AM
Dianthus cretaceus subsp. cretaceus CAR008 AM
Dianthus cretaceus subsp. cretaceus CAR009 AM
Dianthus cretaceus subsp. cretaceus CAR037 AM
Dianthus cretaceus subsp. cretaceus CAR038 AM
Dianthus cretaceus subsp. sevanensis CAR053 AM
Dianthus cretaceus subsp. sevanensis CAR011 AM
Dianthus cretaceus aff. subsp. sevanensis CAR071 AM
Dianthus crinitus CAR013 AM
Dianthus crinitus CAR039
Dianthus crinitus CAR054 AM
Dianthus crinitus CAR208 GE
Dianthus erinaceus var. alpinus CAR212 TR
Dianthus floribundus CAR015 AM
Dianthus floribundus × D. anatolicus CAR046 AM
Dianthus aff. floribundus CAR031 TR
Dianthus fragrans CAR182 RU
Dianthus grossheimii CAR017 AM
Dianthus henteri CAR198 RO
Dianthus ilbanolis CAR040 AM
Dianthus liboschitzianus aff. var. micranthus CAR030 TR
Dianthus praecox subsp. lumnitzeri CAR187 AT
Dianthus leucophoenicus CAR213 GR [NPi]
Dianthus martinianus CAR018 AM
Dianthus micranthus CAR075 TR
Dianthus orientalis CAR023 TR
Dianthus orientalis CAR078 TR
Dianthus orientalis subsp. obtusisquamus CAR063 AM
Dianthus orientalis subsp. orientalis CAR042 AM
Dianthus orientalis subsp. orientalis CAR081 IR
Dianthus pinifolius CAR191 GR
Dianthus reddeanus CAR064 AM
Dianthus subulosus CAR024 AM
Dianthus subulosus CAR206 GE
Dianthus truncatomarginatus CAR199 GE
Dianthus erinaceus CAR197 TR
Dianthus zangezuricus CAR066 AM
Dianthus tunicoides CAR612 GR
Dianthus tunicoides MF401129 1
Petrorhagia illyrica subsp. haynaldiana* CAR605
Petrorhagia crellia* CAR608 AM
Velezia fasciculata* CAR422 IL
Velezia rigida* AY936269
Velezia rigida* GU440888
Dianthus candicus CAR609 GR[KK]
Dianthus cyri CAR014 AM
Dianthus armeria CAR034 RU
Dianthus armeria CAR046 AM
Dianthus armeria CAR185 DE
Dianthus sp. CAR230
Dianthus strictifarnia CAR610 TR
Petrorhagia velutina CAR611 GR
Petrorhagia velutina AY857974 1
Petrorhagia prolifera GU440883
Petrorhagia glumacea CAR606 GR [StE]
Petrorhagia saxifraga JQ307895
Petrorhagia dianthoides CAR607 GR [KK]
Petrorhagia thessala CAR604 GR[NC]
Petrorhagia thessala GU440885
Bolanthus graecus KX834004
Bolanthus graecus CAR613 GR
Silene saxatilis
Silene saxatilis CAR249 GE

Figure 2. Bayesian majority-rule consensus tree inferred from nuclear ITS datasets. Support values PP (left) and MLBS (right) can be found above branches and JK below; "<50" denotes branches with MLBS support below 50%, "--" denotes a node not found by the respective analysis. Country codes: AM = Armenia, AT = Austria, AZ = Azerbaijan, BG = Bulgaria, CY = Cyprus, DE = Germany, ES = Spain, FR = France, GE = Georgia, GR = Greece (NE = North East, NC = North Central, KK = Kriti and Karpathos, StE = Sterea Ellas, NPi = Norh Pindos, EAe = East Aegean Islands, Pe = Peloponnisos), HR = Croatia, IR = Iran, IT = Italy, RO = Romania, RU = Russia, SK = Slovakia, TR = Turkey, ZA = South Africa. The annotations on the infrageneric classification based on Pax and Hoffmann (1934) are indicated by coloured squares.

clade). Our phylogenetic results confirm the position of these former *Petrorhagia* species within *Dianthus* (Figs 2, 3). Nevertheless, we extended the sampling of *Petrorhagia* and found further species (*P. cretica*, *P. illyrica*) within *Dianthus*, whereas a distant clade of the members of the genus *Petrorhagia* (including the type *P. saxifraga*, and *P. dianthoides* (Sm.) P.W.Ball & Heywood, *P. glumacea* (Bory & Chaub.) P.W.Ball & Heywood, *P. prolifera*, *P. thessala* and *P.dubia* (Raf.) G.López & Romo) receives high support in chloroplast and ITS trees. The taxa that were found nested within *Dianthus* belong to the *Petrorhagia* sect. *Pseudotunica* (Fenzl) Ball & Heywood and *Petrorhagia* sect. *Pseudogypsophila* (A.Braun) P.W.Ball & Heywood, while the *Petrorhagia* taxa that form a distant clade belong to *Petrorhagia* sect. *Petrorhagia* and *Petrorhagia* sect. *Kohlrauschia* (Kunth) P.W.Ball & Heywood (Ball and Heywood 1964). This clade is related to *Bolanthus*, which is inferred as sister with high support in the plastid tree, but is depicted inconsistently in a grade with ITS (Fig. 2). Apart from our now clearer picture of relationships between *Dianthus* and *Petrorhagia*, the genus *Velezia* still plays a role in the monophyletic circumscription of *Dianthus*. Madhani et al. (2018) merged *Velezia* with *Dianthus*, following the suggestion by Valente et al. (2010), but considered only one species, *V. rigida* L., and resurrected the name *Dianthus nudiflorus* Griff. based on a type from Afghanistan. Sequence data of *Velezia* indicate that this former genus consists of more than one species (Fig. 2), with *V. fasciculata* Boiss. in a different position in the ITS tree compared to *V. rigida*, which is in line with the acceptance of six species in the Euro+Med PlantBase (Marhold 2011). Only *V. rigida* is widespread from the western Mediterranean through SW Asia and the Caucasus as well as introduced in North America, specifically in California (Rabeler and Hartmann 1993+), whereas the other species are range-restricted and occur in Greece, Turkey and Syria. Consequently, we propose to also include the remaining *Velezia* species in *Dianthus* (see Nomenclatural Novelties).

The second branch within the *Dianthus* clade is composed of *Dianthus armeria* (incl. *D. viscidus*) and relatives such as *D. carthusianorum* and *D. deltoides*, as congruently inferred by the nuclear and plastid partition and which is also consistent with trees shown by Valente et al. (2010) and Greenberg and Donoghue (2011). The respective positions of the next-branching lineages, i.e. *Velezia* and a lineage of *Dianthus strictus* plus *D. cyri*, are not well supported. Again, our tree topologies agree in principle with the findings of Valente et al. (2010) and Greenberg and Donoghue (2011) but differ in that two former species of *Petrorhagia* as recognised by Madhani et al. (2018) belong here (*P. armerioides* (Ser. ex DC.) P.W.Ball & Heywood, *P. candica* P.W.Ball & Heywood). We show that *P. cretica* and *P. illyrica* are also part of this lineage (Fig. 2) and need to be merged with *Dianthus*.

Our results also agree with a core clade of *Dianthus* that contains the majority of the *Dianthus* species. Contrary to Valente et al. (2010), our results depict three major clades (clades A-C) of core *Dianthus*.

Clade A contains Eurasian taxa and includes the type of the genus, *D. caryophyllus*. Clade A also comprises three subspecies of *D. fruticosus* (subsp. *amorginus*, subsp. *fruticosus* and subsp. *rhodius*) that are apparently convergent in terms of evolving a

Figure 3. Habit, inflorescence and floral morphology in the core lineage of *Dianthus*. From the predominantly Euro-Mediterranean clade A are *D. sphacioticus* (**A**) with solitary flowers enclosed basally by cauline leaves, *D. integer* subsp. *minutiflorus* (**B**) enclosed basally by several slightly coriaceous bracts with an outward-pointing green tip, *D. stenopetalus* (**C**) with several flowers in a condensed terminal inflorescence with many brown scales, *D. critinus* (**D**) with four decussate bracts at the base, and *D. haematocalyx* (**E**). Clade B, which includes many Caucasian and Irano-Turanian species, is represented by *D. gabrielianae* (**F**) and the predominantly Cretan clade C by *D. juniperinus* subsp. *juniperinus* (**G**). *D. juniperinus* is a densely branched, cushion-like subshrub and *D. haematocalyx* is a small cushion plant. Photos: N. Turland (**A**), K. Goula (**B–D**), A. Zografidis (**E**), A. Nersesyan (**F**) and G. Fassou (**G**).

similar life form as the members of clade C. Several terminal sublineages of apparently geographically close samples receive good support such as *D. cretaceus* Adams subsp. *cretaceus* and *D. floribundus* Boiss., but at the same time the samples of *D. gratianopolitanus* Vill. are spread over this clade (Fig. 2).

Clade B contains mostly Irano-Turanian and Caucasian taxa but also *D. cyprius* A.K.Jacks. & Turrill from Cyprus, *D. alpinus* L. from the European Alps and the taxa from tropical and southern Africa (*D. mooiensis*, *D. namaensis* Schinz and *D. zeyheri*). This is in contrast with the claim of Valente et al. (2010) that an African clade is well supported as a sister clade to a Eurasian radiation. According to our data, the African taxa are nested within the Eurasian radiation.

The third clade of the core of *Dianthus* (clade C) consists of the Cretan taxa *Dianthus juniperinus* and some subspecies of *Dianthus fruticosus*. Specifically, the subspecies *D. fruticosus* subsp. *carpathus* Runemark, *D. fruticosus* subsp. *occidentalis* Runemark and *D. fruticosus* subsp. *karavius* Runemark can be found in clade C together with *D. juniperinus*. *Dianthus fruticosus* is not monophyletic; some of its subspecies, *D. fruticosus* subsp. *fruticosus*, *D. fruticosus* subsp. *amorginus* and *D. fruticosus* subsp. *rhodius* are resolved within clade A. There are no apparent morphological differences of *D. fruticosus* subsp. *amorginus* and subsp. *fruticosus* (both from the Cyclades), and *D. fruticosus* subsp. *rhodius* (from Rhodes and other east Aegean islands) compared to the other subspecies of *D. fruticosus* from clade C. This indicates convergent evolution resulting from adaptation to similar coastal rocky habitats.

Infrageneric classification of *Dianthus*

The classification of Pax and Hoffmann (1934) is annotated on the phylogenetic trees in Fig. 1. Even though many species were described later and therefore were not classified into infrageneric entities, it is evident that these subgenera and sections do not represent natural groups. Apart from *D.* sect. *Armerium*, there is little correlation with the taxonomic groups of either Williams (1893) or Pax and Hoffmann (1934).

Dianthus subg. *Armeriastrum* is highly polyphyletic and is represented both in the core of *Dianthus*, namely in clades A and C by *D.* sect. *Carthusiani* and *D.* sect. *Suffruticosi*, but also in the *Dianthus armeria* clade (with *D.* sect. *Armerium*) that belongs to the first branches of *Dianthus*. However, *D.* sect. *Armerium* is paraphyletic to *D. deltoides* (*D.* subg. *Caryophyllum*). Clade C has exclusively taxa from *D.* sect. *Suffruticosi*, but the section itself is not limited to this clade C. It is polyphyletic due to the presence of *D. armeria* outside of the core *Dianthus* clade, the presence of three subspecies of *D. fruticosus*, and two further independent terminal lineages composed by *D. rupicula* and *D. gracilis* in clade A. The suffruticose life form that characterises *D.* sect. *Suffruticosi* must therefore have evolved multiple times.

Dianthus subg. *Caryophyllum* is in the clades A and B, with its sections forming no specific pattern. Although all the sections appear in the core of *Dianthus*, *D.* sect. *Eucaryophyllum* appears exclusively in clade A, while the section "*Tetralepides leiopetala*" can be found in clade A and outside of the core. What was referred to as a clade

corresponding to *D.* sect. *Armerium* in Valente et al. (2010) in fact consists of taxa from different sections sensu Pax and Hoffmann (1934). In addition to *D.* sect. *Armerium*, these are *D.* sect. *Carthusiani* (*D. carthusianorum* and *D. viscidus*), although the majority of species from this section are in clade A. *Dianthus deltoides*, which is congruently inferred as part of the *Dianthus armeria* clade by Valente et al. (2010), is classified herein in *D.* subg. *Caryophyllum*.

The early branch of *Dianthus cyri* and *D. strictus* belongs to the section "*Tetralepides leiopetala*" according to Pax and Hoffmann (1934), which was originally described by Williams (1885); see Table 1. The two species *D. cyri* and *D. tripunctatus* (not sampled here) were earlier used by Boissier (1867) to define *D.* § 1. *Verruculosi*, although no type for the sectional name was designated. If we accept *D. cyri* as the type, the name *D.* sect. *Verruculosi* (Boiss.) Schischkin would be correct in terms of priority. This corresponds to the use of this sectional name by Valente et al. (2010), as well as some floristic treatments, e.g. Rechinger (1988). However, Williams (1885; 1893) did not designate any types for his subgeneric or sectional names either. The wide taxon concept of the section "*Tetralepides leiopetala*" sensu Williams (1893) and Pax and Hoffmann (1934) can only be adjusted after the application of a validly published name and its typification. This section is polyphyletic and its species are found across all our clades (Fig. 1).

Implications for the evolution of floral and inflorescence morphology

The inflorescences in *Dianthus*, *Petrorhagia* and related genera possess a cymose principal structure as in most Caryophyllaceae, and these inflorescences exhibit various levels of complexity. The spectrum ranges from solitary flowers on more or less unbranched stems (e.g. *D. sphacioticus* Boiss. & Heldr., Fig. 3A), over more or less richly branched inflorescences (e.g. *D. deltoides*, *D. juniperinus*, Figs 3G, 4C, 4E) to somewhat condensed (e.g. *D. armeria*, Fig. 4D) or strongly condensed terminal head-like inflorescences (e.g. *D. stenopetalus* Griseb., Fig. 3C). These complex inflorescences have evolved independently in different lineages within *Dianthus*, such as the early-branching *Dianthus armeria* clade (*D. armeria*, *D. carthusianorum*) and within clade A of the core group (*D. cruentus* Griseb., *D. giganteus* d'Urv., *D. pinifolius* Sm., *D. stenopetalus*) and also within clade B (*D. asperulus* Boiss. & A.Huet, *D. transcaucasicus* Schischk.). In a similar way, the condensed inflorescences in *Petrorhagia prolifera* and relatives (Fig. 1C, Fig. 4F; Ball and Heywood 1964) mark convergent evolution in a terminal clade, whereas *P. saxifraga* has solitary flowers subtended by four decussate bracts, like in several species of *Dianthus* in core clades A-C (Fig. 3). Within the inflorescences, cauline herbaceous leaves more or less gradually become narrower, more scarious or papery in texture and with a more distinctly excurrent midrib (Figs 3D, 4E) toward the tip of the branches. The position of the uppermost pair of these leaf organs can be distinctly below the calyx as in *Petrorhagia cretica*, and in this case they differ only slightly in their morphology from cauline leaves. Alternatively, these leaf organs arise directly at the base of the calyx, resulting from a reduced peduncle and shortened up-

permost internodes of the inflorescence branches or stems (Figs 3 B, D, 4E). This seems to be the most common state in *Dianthus*, which is present in all major lineages. These "subtending" modified leaf organs usually differ more abruptly from the upper leaves on stems and inflorescence branches and have been called "epicalyx scales" or "epicalyx bracts" (Ball and Heywood 1964; Tutin 1964; Madhani et al. 2018;). Condensed inflorescences with multiple flowers do not only have such "epicalyx scales" but also additional, usually brown, scarious bracts (Fig. 3C) that create a firm, head-like appearance.

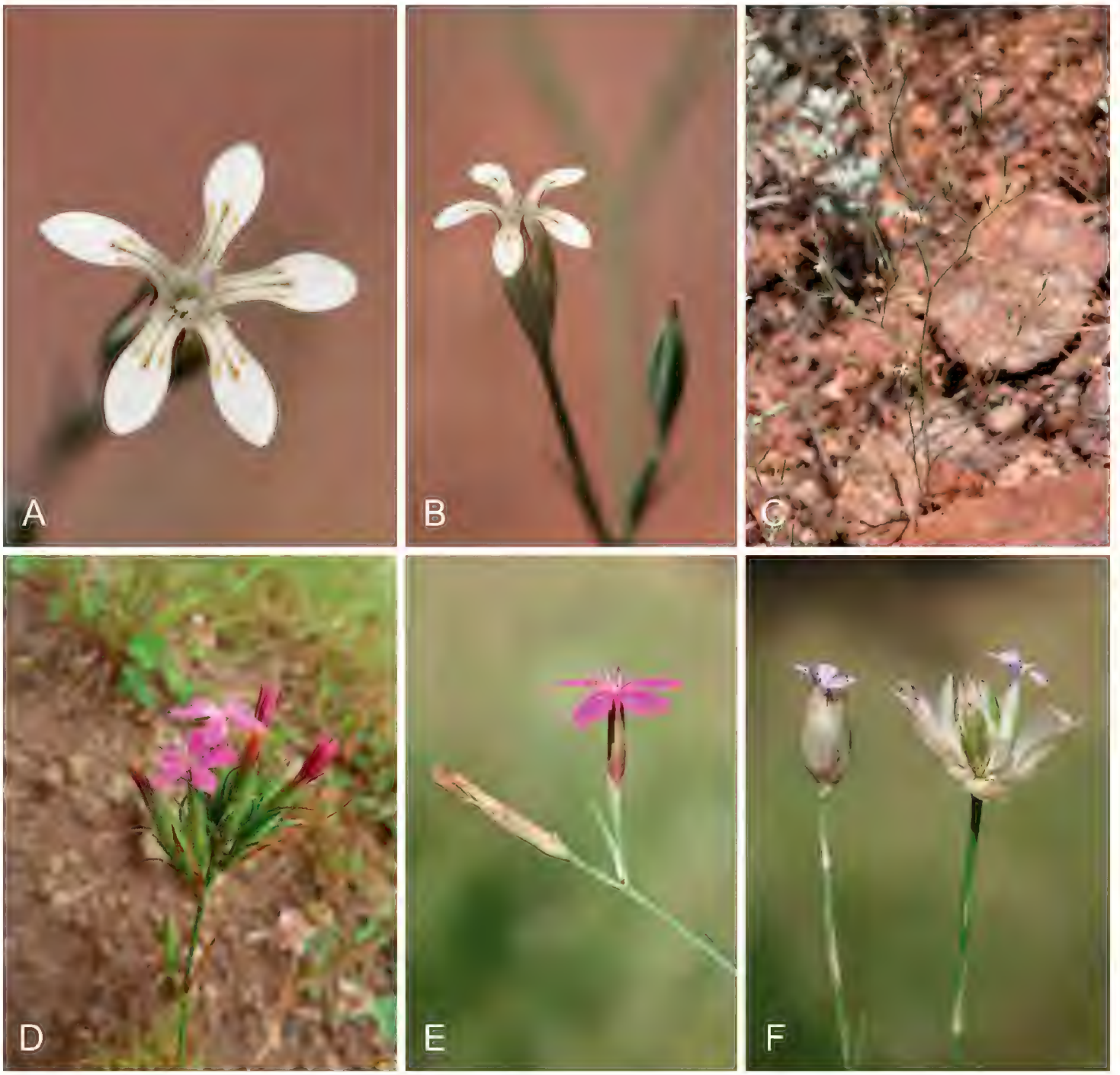

Figure 4. Habit, inflorescence and floral morphology in early-branching lineages of *Dianthus* and *Petrorhagia*. The *Dianthus tunicoides* clade is represented by *D. pachygonus* (= *Petrorhagia cretica*), which has solitary flowers (**A, B**) in diffusely branched inflorescences (**C**). The *Dianthus armeria* clade is represented by *D. armeria* (**D**), which has condensed terminal inflorescences and flowers supported by reflexed, bract-like leaves, and *D. deltoides*, which has lax inflorescences with solitary flowers each supported by two opposite bracts (**E**). The core clade of *Petrorhagia* is represented by *P. prolifera*, which has highly condensed terminal inflorescences with broadly ovate and thinly scarious bracts enclosing the flowers (**F** with opened inflorescence to the right). Photos: A. Nersesyan (**A-D**), T. Borsch (**E, F**).

This was noted by Tutin (1964), who stated that bracts occur in species with capitate inflorescences and should be distinguished from epicalyx scales. Specialised inflorescence types have also evolved in other genera of Caryophyllales, such as the head-like synflorescences composed of several paracladia that are supported by pseudanthial leaves in *Gomphrena*, Amaranthaceae (Ortuño Limarino and Borsch 2020). Therefore, complex evolution of inflorescences is present in the Caryophyllales, and occurs multiple times within the respective genera. The absence or presence of "epicalyx bracts" as discussed by Ball and Heywood (1964) and Madhani et al. (2018) can therefore not be used as diagnostic to delimit *Dianthus* from *Petrorhagia* and as such does not represent a homologous character. Nevertheless, the evolution of complex inflorescence types, which possess additional modified leaf organs compared to the subtending opposite leaves in dichasial inflorescence structures, may be more accurately reconstructed once there is a fully resolved tree of *Dianthus*.

The conspicuous species with plumose petals (Fig. 3) were early on classified as "*Dianthus* sect. *Plumaria*", a name published by Opiz (1852), albeit a nomen nudum and therefore invalid. It largely corresponds to *D.* sect. *Fimbriati* (Boiss.) F.N.Williams. This section is highly polyphyletic, and points to multiple evolutionary origins of plumose petals in *Dianthus*, such as in *D. superbus* (core clade A) and *D. crinitus* or *D. libanotis*, (core clade B), and there are also transitional petals slightly plumose at the tip (e.g. *D. cyprius*, *D. namaensis*).

Implications for biogeography and diversification patterns

A striking biogeographic feature within *Dianthus* is the Cretan *D. juniperinus-D. fruticosus* clade (clade C). The highly fragmented form of the Aegean region with many islands is the result of a series of geological events. Between the Lower Oligocene and before the Serravallian, there was a land mass, Aegea. Since Serravallian and until Upper Tortonian times (12–5 MYA), the sea slowly invaded and formed the mid-Aegean Trench, which divided the eastern and central-western parts of Aegea. During the Messinian Salinity Crisis (5.96–5.33 MYA), the Mediterranean Sea almost dried up, creating routes between some isolated areas. Nevertheless, Crete remained isolated from the Cyclades and Peloponnese due to deep trenches with high salinity. At the beginning of the Pliocene (5.3 Ma), the sea level rose again and resulted in a highly fragmented Aegea. Crete was almost submerged and only the peaks of the mountains remained as isolated islands. Since the Middle Pliocene until the upper Pliocene-Lower Pleistocene, the Aegean islands and Crete took their present form, with minor changes. The palaeogeographic history of the Aegean Sea has a major contribution to the biogeographic patterns of all recent taxa of these areas (Sfenthourakis and Triantis 2017). The bisection of *D. fruticosus* into two different clades, with *D. fruticosus* subsp. *fruticosus*, *D. fruticosus* subsp. *amorginus* and *D. fruticosus* subsp. *rhodius* belonging to clade A and the rest of the subspecies nested in the C with *D. juniperinus*, follows the fragmentation of Aegea due to the formation of the Mid-Aegean Trench. Moreover, Crete was connected to the mainland during most of the Miocene and was mostly isolated during

the Pliocene, forming its own unique biogeographic patterns. The Aegean region is a biologically very diverse archipelago, but the way in which the islands and plant groups have interacted and evolved is not yet sufficiently understood. There are some recent studies, e.g. Kougioumoutzis et al. (2016) that address the biogeographic studies in the area, but further research is nonetheless crucial.

The tropical and southern African *Dianthus* taxa appear in our clade C within the Eurasian taxa, although, due to lack of resolution, we cannot yet infer the closest relatives of the southern African species. *Dianthus* shows a pattern like other species from the northern hemisphere with African high-mountain clades nested within Eurasian clades, as shown for, e.g., *Carex* and *Ranunculus* (Gehrke and Linder 2009). Many cases suggest not only migration from the northern hemisphere, but the recurrence of that (Bleeker et al. 2002; Carlsen et al. 2009), which could explain the presence of the African taxa within the clades of Eurasian taxa. The tropical-alpine and tropical-montane floras, as suggested by Linder (2014), show strong relations with the flora of Eurasia. One probable migration route from Eurasia to southern Africa for these taxa is through the Arabian Peninsula and the high mountains of eastern and southern Africa (Koch et al. 2006), which fits well with the pattern observed in this study that African *Dianthus* are part of a clade dominated by the Eurasian and Irano-Turanian taxa.

Dianthus is suggested to be one of the fastest species radiations of flowering plants (Valente et al. 2010). These authors calculated diversification rates by using a rather conservative estimate of 300 species. Considering that the number of species in *Dianthus* as assessed here is distinctly higher, the true speciation rates may also even be higher. On the other hand, there is not a single "Eurasian radiation" as suggested by Valente et al. (2010). Rather, our data point to three sub-radiations in the core of *Dianthus*, which seem to have evolved different numbers of species in different geographic areas. It is noteworthy that *Dianthus* has not evolved a high number of species in tropical and southern Africa. The smallest is the radiation of *D. juniperinus* and allies on Crete (our clade C). However, the number of species in this lineage is still difficult to assess because the current classification includes many subspecies and because species as currently classified do not represent biological entities.

Compared to the other lineages of *Dianthus*, clade C shows a high phylogenetic structure and apparently some geographic patterns. Future analyses will therefore test how far speciation was triggered through geographic and ecological isolation on Crete. The two much more species-rich clades A and B have colonised vast geographic areas, offering many more ecological opportunities and potential areas for spatial isolation.

Phylogenetic signal at species level and speciation in *Dianthus*

Genetic distances in *Dianthus* are very low, which limits resolution in phylogeny reconstruction at species level and may be attributed to the core clade of *Dianthus* representing a rapid radiation (Valente et al. 2010) that did not yet allow for the accumulation of mutations in the genomic regions sequenced, while the evolution of phenotypic characters occurred more quickly. Sequence divergence is particularly

low in the ribosomal array (Fig. 2). Nevertheless, the overall phylogenetic tree of *Dianthus* (Fig. 2) reveals deep nodes with significant statistical support. The core *Dianthus* clade exhibits a deep sharing of plastid haplotypes in some species, for example in *D. gratianopolitanus*, where individuals from geographically different populations in central Europe are resolved in various sublineages of clade A. The pattern in this species is particularly striking since there were no noticeable morphological differences among these individuals. Another species complex with deeply shared plastid haplotypes is *D. orientalis* Adams (Fig. 1, clade B), although here considerable morphological variation is present that has led to the acceptance of several subspecies. Again, the haplotypes are shared only within subclade C, and not across the genus. Such a pattern could be explained by a combination of shared ancestral variation and continuous secondary genetic contact, which took place within certain major lineages of *Dianthus* and within certain geographic areas. *Dianthus* seems to be one of the most extreme cases of deep chloroplast-sharing in flowering plants, similar to what has been observed in the rapid postglacial evolution of relatives of *Arabidopsis thaliana* (L.) Heynh. during the last 800,000 years (Hohmann and Koch 2017; Novikova et al. 2016).

Future research will therefore have to employ phylogenomic approaches to better understand species-level relationships and species limits in *Dianthus*. In addition to sequencing a broad set of nuclear loci, the analysis of complete plastid genomes will reveal how far plastid genomes are really shared between extant species, considering that our current limited sampling of the plastid regions may not depict the full complexity and divergence patterns of this maternally inherited organellar genome.

Species diversity of *Dianthus*

Our *Dianthus* checklist contains 384 accepted species, and 147 accepted heterotypic subspecies. The unresolved names section of the checklist contains a further 172 species names that were not assessed, and a number of them may be good species as well. Therefore, the often-quoted number of 300 species (Pax and Hoffmann 1934; Bittrich 1993; Hernández-Ledesma et al. 2015) is underestimated. It should be noted that we present a compilation of names, not a genus-wide treatment, which we nevertheless consider to be an accurate estimate of the species diversity since it is based on available detailed treatments. It is therefore much more accurate compared to the previous World Flora Online backbone based on The Plant List in terms of accepted species and synonyms. About 50 names that were unresolved in the original WFO backbone could be resolved in our checklist. The remaining 172 unresolved names are in part old names, described in the 19th century and apparently not used in subsequent treatments. But there are also a number of names described from south-eastern Europe, which would have to be assessed in more detail by local experts.

It is both noteworthy and unexpected that taxon concepts are congruent between different treatments, despite some geographic overlap. The widely distributed species are accepted under the same name in different Floras, while subspecies are normally

geographically restricted and therefore only accepted in one Flora. In total, differing taxonomic concepts affect fewer than 10 taxa in the whole checklist.

So far, only one species complex within *Dianthus* has been analysed with an evolutionary approach. Farsi et al. (2013) used a combination of sequence data and morphological characters to assess species limits in the *D. polylepis* Bien. complex, concluding that *D. binaludensis* Rech.f. could not be separated from *D. polylepis* but should be better treated as its subspecies. Our present study provides insights into the *Dianthus fruticosus* and *D. juniperinus* groups, but aside from that, basically all other species limits in *Dianthus* are still based on classical morphology, and so are the numerous recent descriptions of new species.

Nomenclatural novelties

The three species of *Petrorhagia* that were found nested in *Dianthus* (*P. armerioides*, *P. candica* and *P. alpina*) were already transferred to *Dianthus* by Madhani et al. (2018). We found two additional *Petrorhagia* species to be part of the *Dianthus* clade although they have no name in *Dianthus*. Of the three subspecies of *P. illyrica*, we sampled only one. They all are morphologically very similar (Ball and Heywood 1964) and therefore can be expected to be closely related, although we are aware that is not true for the subspecies of *Dianthus fruticosus* that we showed to be unrelated. Nevertheless, we provide new combinations for the other two *P. illyrica* subspecies so that these subspecies can be classified in *Dianthus*. Their phylogenetic placement remains to be tested.

Velezia rigida, the nomenclatural type of *Velezia*, was found to be nested within the *Dianthus* clade by Madhani et al. (2018) and therefore Velezia cannot be accepted as a separate genus any longer. We therefore provide new names in *Dianthus* for the five remaining *Velezia* species; their phylogenetic placement however remains to be confirmed.

The complete homotypic and heterotypic synonymy for each of the species is given in the checklist; here we provide only the basionyms and the former names in *Petrorhagia* or *Velezia*.

Dianthus antalyensis **Fassou, N.Korotkova, Dimop. & Borsch, nom. nov.**
urn:lsid:ipni.org:names:77297792-1

≡ *Velezia tunicoides* P.H.Davis in Notes Roy. Bot. Gard. Edinburgh 22: 166. 1957.

Holotype. Turkey, Prov. Antalya, distr. Kemer (Lycia): Gönük, by dry stream bed, 7 Jul 1949, *Davis, Bilger & Attila D. 15009* (K-000077456!; isotype: E-00301891!).

Note. The name *Dianthus tunicoides* Madhani & Heubl in Taxon 67(1): 103. 2018) was already published as a new name for *Gypsophila armerioides* Ser. ex DC. ≡ *Petrorhagia armerioides* (Ser. ex DC.) P.W.Ball & Heywood. This new name refers to the province of Antalya, Turkey, from where the species was described.

***Dianthus hispidus* (Boiss. & Balansa) Fassou, N.Korotkova, Dimop. & Borsch, comb. nov.**
urn:lsid:ipni.org:names:77297793-1

≡ *Velezia hispida* Boiss. & Balansa in Boissier, Diagn. Pl. Orient., ser. 2, 5: 57. 1856.

Syntypes. Turkey, Yaïla de Bozdagh (Tmolus occidental), dans les vergers, 27 Jul 1854, *Balansa 117* (GOET-000717!, P-04998030!, P-04998031!, P-04998036!, WAG-0000421!).

***Dianthus illyricus* (Ard.) Fassou, N.Korotkova, Dimop. & Borsch, comb. nov.**
urn:lsid:ipni.org:names:77297794-1

≡ *Saponaria illyrica* Ard., Animadv. Bot. Spec. Alt.: 24. 1764 ≡ *Petrorhagia illyrica* (Ard.) P.W.Ball & Heywood in Bull. Brit. Mus. (Nat. Hist.), Bot. 3: 133. 1964.

Lectotype (designated here). locality and date unknown, *Arduino s.n.*, Herb. Linnaeus No. 580.7 (LINN!). This specimen was mentioned by Ball and Heywood (1964). The sheet has two distinct specimens, one of which is labelled "Ard.", and the typification refers to this specimen. Ball & Heywood mentioned that it "may be regarded at least as an isotype", but did not formally designate it as a type.

Dianthus illyricus subsp. *illyricus*

***Dianthus illyricus* subsp. *angustifolius* (Poir.) Fassou, N.Korotkova, Dimop. & Borsch, comb. nov.**
urn:lsid:ipni.org:names:77297795-1

≡ *Silene angustifolia* Poir., Voy. Barbarie 2: 164. 1789 ≡ *Petrorhagia illyrica* subsp. *angustifolia* (Poir.) P.W.Ball & Heywood in Bull. Brit. Mus. (Nat. Hist.), Bot. 3: 136. 1964.

Neotype (designated here). locality and date unknown, *Poiret 32* (P-00286897!). This specimen might be original material for the name.

***Dianthus illyricus* subsp. *haynaldianus* (Nyman) Fassou, N.Korotkova, Dimop. & Borsch, comb. nov.**
urn:lsid:ipni.org:names:77297796-1

≡ *Tunica haynaldiana* [Borbás in Mat. Term. Közlem. 13: 46. 1877, pro. syn; in Just's Bot. Jahresber. 4(2): 1067. 1878, provisional name] Nyman, Consp. Fl. Eur. Suppl. 2(1): 57. 1889 ≡ *T. illyrica* var. *haynaldiana* (Nyman) Hayek, Prodr. Fl. Penins. Balcan. 1: 222. 1924 ≡ *Petrorhagia illyrica* subsp. *haynaldiana* (Nyman) P.W.Ball & Heywood in in Bull. Brit. Mus. (Nat. Hist.), Bot. 3: 134. 1964.

Type: Romania, in rupestribus versus portam ferram ad Danubium inferiorem infra Orsova jam in Vallachia sitis frequens, 28 Jun 1870, *Janka* #Iter banaticum s.n. (B-100365631!).

***Dianthus illyricus* subsp. *taygeteus* (Boiss.) Fassou, N.Korotkova, Dimop. & Borsch, comb. nov.**
urn:lsid:ipni.org:names:77297799-1

≡ *Tunica illyrica* var. *taygetea* Boiss., Fl. Orient. 1: 521. 1867 ≡ *Petrorhagia illyrica* subsp. *taygetea* (Boiss.) P.W.Ball & Heywood in Bull. Brit. Mus. (Nat. Hist.), Bot. 3: 137. 1964.

Syntypes. Greece, Peloponnisos, Androuvista, Montis Taygeti, Jun-Jul 1844, *Heldreich s.n.*, (G-00227046!, G-00227047!, BR0000006981167!, BR0000006981495!, BM, CGE, K fide Ball and Heywood 1964).

***Dianthus fasciculatus* (Boiss.) Fassou, N.Korotkova, Dimop. & Borsch, comb. nov.**
urn:lsid:ipni.org:names:77297800-1

≡ *Velezia fasciculata* Boiss., Diagn. Pl. Orient., ser. 1, 8: 92. 1849.

Syntypes. Syria, locality as given in the protologue: "Hab. in montosis Syriae borealis inter fluvium Orontem et urbem Laodiceam", Jun 1846, *Boissier s.n.* (K-000077457!, K-000077458!, LECB-0000587!, P-04998034!, P-04998035!).

Note. The name *Dianthus fasciculatus* Gilib., Fl. Lit. Inch. 2: 161. 1782 was not validly published.

***Dianthus pachygonus* (Fisch & C.A.Mey.) Fassou, N.Korotkova, Nersesian & Borsch, comb. nov.**
urn:lsid:ipni.org:names:77297801-1

≡ *Tunica pachygona* Fisch. & C.A.Mey., Index Sem. Hort. Bot. Petropol. 4: 50. 1838 = *Saponaria cretica* L., Sp. Pl., ed. 2, 1: 584. 1762 ≡ *Petrorhagia cretica* (L.) P.W.Ball & Heywood in Bull. Brit. Mus. (Nat. Hist.), Bot. 3: 142. 1964.

Type. not designated

Lectotype. (designated by Davis in Notes Roy. Bot. Gard. Edinburgh 22: 164. 1957): locality, date and collector unknown, Herb. Linnaeus No. 580.4 (LINN!).

Davis (1957) had pointed out the name *Tunica cretica* (L.) Fisch. & C.A.Mey. (basionym: *Saponaria cretica* L.) had been misapplied, whereas in fact the type of the name

(the specimen in LINN) is an annual species that was later named *Tunica pachygona* Fisch. & C.A.Mey. Accordingly, the correct name in *Dianthus* would be *D. pachygonus*, the new combination published here because the epithet of *Saponaria cretica* is preoccupied in *Dianthus* by *D. creticus* Tausch. which is now treated as *Dianthus fruticosus* subsp. *creticus* (Tausch) Runemark.

***Dianthus pseudorigidus* (Hub.-Mor.) Fassou, N.Korotkova, Dimop. & Borsch, comb. nov.**
urn:lsid:ipni.org:names:77297802-1

≡ *Velezia pseudorigida* Hub.-Mor. in Bauhinia 2: 195. 1963.

Holotype. Turkey, Prov. Antalya, Distr. Antalya, *Poterium-Cistus*-Macchie in der Bucht von Atbükü, 5 km nördlich von Cirali, 10–50 m, auf Serpentin, 26 May 1950, *Huber-Morath 9666* (E 00301890!).

***Dianthus quadridentatus* (Sm.) Fassou, N.Korotkova, Dimop. & Borsch, comb. nov.**
urn:lsid:ipni.org:names:77297803-1

≡ *Velezia quadridentata* Sm. in Sibthorp & Smith, Fl. Graec. Prodr. 1: 283. 1809.

Type. not designated; original material: "In Asiâ minori", *Sibthorp s.n.* (OXF Sib-FG Sib-0954!, K000077455!).

Checklist

***Dianthus* L., Sp. Pl. 1: 409. 1753.** Sec. this publication
≡ *Caryophyllus* Mill., Gard. Dict. Abr., ed. 4: [textus s.n.]. 1754, nom. illeg. syn. sec. IPNI
≡ *Caryophyllus* Tourn. ex Moench, Methodus: 58. 1794 syn. sec. POWO. Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew.
= *Velezia* L., Sp. Pl.: 332. 1753 syn. sec. Madhani et al. (2018). Type: *Velezia rigida* L.
= *Cylichnanthus* Dulac, Fl. Hautes-Pyrénées: 260. 1867 syn. sec. Madhani et al. (2018)
– *Diosanthos* St.-Lag. in Ann. Soc. Bot. Lyon 7: 87. 1880, nom. inval. syn. sec. Kew WCVP (2019)

Core checklist

***Dianthus acantholimonoides* Schischk. in Byull. Gosud. Muz. Gruzii 5: 121. 1930.** Sec. Kuzmina & Nersesyan (2012)

***Dianthus acicularis* Fisch. ex Ledeb., Fl. Ross. 1: 284. 1842.** Sec. Czerepanov (1995)
= *Dianthus tauscheri* Eversm. ex Ledeb., Fl. Ross. 1: 284. 1842 syn. sec. Dequan & Turland (2001)

***Dianthus acrochlorus* Stapf in Denkschr. Kaiserl. Akad. Wiss., Wien. Math.-Naturwiss. Kl. 51: 5. 1886.** Sec. Marhold (2011)
– *Dianthus acrochlonis* Stapf in Denkschr. Kaiserl. Akad. Wiss., Wien. Math.-Naturwiss. Kl. 51: 5. 1886 syn. sec. Marhold (2011) [is misspelling for *Dianthus acrochlorus* Stapf]

***Dianthus aculeatus* Hamzaoğlu in Biol. Diversity Conservation 7(2): 160. 2014.** Sec. Hamzaoğlu et al. (2014)

***Dianthus afghanicus* Rech.f. in Bot. Jahrb. Syst. 75: 360. 1951.** Sec. Rechinger (1988)

***Dianthus agrostolepis* Rech.f. in Plant Syst. Evol. 142: 246. 1983.** Sec. Kuzmina & Nersesyan (2012)

***Dianthus akdaghensis* Gemici & Leblebici in Candollea 50: 43. 1995.** Sec. Gemici & Leblebici (1995)

***Dianthus albens* Aiton, Hort. Kew. 2: 90. 1789.** Sec. African Plant Database (version 3.4.0)
= *Dianthus incurvus* Thunb., Prodr. Pl. Cap. 1: 81. 1794 syn. sec. African Plant Database (version 3.4.0)

***Dianthus algetanus* Graells ex F.N.Williams in J. Bot. 23: 347. 1885.** Sec. Bernal et al. (1990)
≡ *Dianthus pyrenaicus* subsp. *algetanus* (Graells ex F.N.Williams) Malag., Sin. Fl. Ibér. 20: 318. 1975 syn. sec. Bernal et al. (1990) ≡ *Dianthus costae* subsp. *algetanus* (Graells ex F.N.Williams) M.Laínz, Muñoz Garm. & Soriano in Anales Jard. Bot. Madrid 43: 473. 1986 ["1987"] syn. sec. Bernal et al. (1990)
= *Dianthus algetanus* var. *toletanorum* Pau in Cavanillesia 1: 63. 1928 syn. sec. Bernal et al. (1990)

Dianthus algetanus* subsp. *algetanus

***Dianthus algetanus* subsp. *turolensis* (Pau) M.Bernal, Laínz & Muñoz Garm. in Anales Jard. Bot. Madrid 45: 575. 1988 ["1989"].** Sec. Bernal et al. (1990)
≡ *Dianthus turolensis* Pau in Bol. Real Soc. Esp. Hist. Nat. 21: 142. 1921 syn. sec. Bernal et al. (1990) ≡ *Dianthus algetanus* var. *turolensis* (Pau) Pau in Bortéria, Sér. Bot. 22: 111. 1926 syn. sec. Bernal et al. (1990) ≡ *Dianthus costae* subsp. *turo-*

lensis (Pau) M.Laínz & Muñoz Garm in Anales Jard. Bot. Madrid 43: 473. 1986 ["1987"] syn. sec. Bernal et al. (1990)

***Dianthus alpinus* L., Sp. Pl.: 412. 1753.** Sec. Marhold (2011)
= *Dianthus alpinus* lusus *angustifolius* Regel in Bull. Soc. Imp. Naturalistes Moscou 34(2): 530. 1862 syn. sec. Marhold (2011)
= *Dianthus alpinus* lusus *latifolius* Regel in Bull. Soc. Imp. Naturalistes Moscou 34(2): 530. 1862 syn. sec. Marhold (2011)
= *Dianthus alpinus* var. *meyeri* Regel in Bull. Soc. Imp. Naturalistes Moscou 34(2): 530. 1862 syn. sec. Kew WCVP (2019)

***Dianthus altaicus* L.X.Dong & Chang Y.Yang in Acta Bot. Boreal.-Occid. Sin. 28(12): 2355. 2008.** Sec. Dong et al. (2008)

***Dianthus amurensis* Jacques in J. Soc. Imp. Centr. Hort. 7: 625. 1861.** Sec. Barkalov & Probatova (2006)
≡ *Dianthus chinensis* var. *amurensis* (Jacques) Kitag., Neo-Lineam. Fl. Manshur.: 266. 1979 syn. sec. this publication

***Dianthus anatolicus* Boiss., Diagn. Pl. Orient. ser. 1 1: 22. 1843.** Sec. Marhold (2011)
= *Dianthus parviflorus* Boiss., Diagn. Pl. Orient. ser. 1 1: 21. 1843 syn. sec. Marhold (2011)
≡ *Dianthus anatolicus* var. *parviflorus* (Boiss.) Boiss., Fl. Orient. 1: 490. 1867 syn. sec. Dimopoulos et al. (2013)
= *Dianthus kotschyanus* Boiss. & Heldr. in Boissier, Diagn. Pl. Orient., ser. 1, 8: 68. 1849 syn. sec. Marhold (2011)

***Dianthus ancyrensis* Hausskn. & Bornm. in Repert. Spec. Nov. Regni Veg. Beih. 89: 94. 1936.** Sec. Marhold (2011)

***Dianthus andronakii* Woronow ex Schischk., Fl. URSS 6: 841. 1936.** Sec. Kuzmina & Nersesyan (2012)
≡ *Dianthus tristis* Woronow in Věstn. Tiflissk. Bot. Sada 10: 25. 1908 syn. sec. WFO 2018

***Dianthus androsaceus* (Boiss. & Heldr.) Hayek in Kaiserl. Akad. Wiss. Wien, Math.-Naturwiss. Kl., Denkschr. 94: 141. 1918.** Sec. Dimopoulos et al. (2013)
≡ *Dianthus lilacinus* var. *androsaceus* Boiss. & Heldr. in Boissier, Fl. Orient. Suppl.: 81. 1888 syn. sec. WFO 2018

***Dianthus andrzejejowskianus* (Zapał.) Kulcz., Fl. Polska 2: 156. 1921.** Sec. Czerepanov (1995)

≡ *Dianthus capitatus* subsp. *andrzejowskianus* Zapał. in Rozpr. Wydz. Mat.-Przyr Polsk Akad. Umiejetn., Dzial A/B, Nauki Mat-Fiz. Biol. 11: 25. 1911 syn. sec. Czerepanov (1995)
= *Dianthus capitatus* var. *pancicianus* F.N.Williams in J. Bot. 23: 342. 1885 syn. sec. Kew WCVP (2019)
= *Dianthus andrzejejowskianus* subsp. *orientalis* Kleopow in Izv. Kievsk. Bot. Sada 14: 104. 1932 syn. sec. Kew WCVP (2019)

Dianthus angolensis **Hiern ex F.N.Williams in J. Bot. 24: 301. 1886.** Sec. African Plant Database (version 3.4.0)

Dianthus angrenicus **Vved. in Bot. Mater. Gerb. Bot. Inst. Uzbekistansk. Fil. Akad. Nauk S.S.S.R. 3: 9. 1941.** Sec. WFO 2018

Dianthus angulatus **Royle ex Benth., Ill. Bot. Himal. Mts.: 79. 1834.** Sec. Rechinger (1988)
≡ *Dianthus orientalis* var. *angulatus* (Royle ex Benth.) Majumdar, Fl. India 2: 532. 1993 syn. sec. WFO 2018
= *Dianthus incertus* Jacquem. ex Edgew. & Hook.f., Fl. Brit. India 1: 215. 1874 syn. sec. WFO 2018

Dianthus angulatus **subsp.** ***angulatus***

Dianthus angulatus **subsp.** ***subangulatus*** **Rech.f., Fl. Iranica 163: 183. 1988.** Sec. Rechinger (1988)

Dianthus antalyensis **Fassou, N.Korotkova, Dimop. & Borsch.** Sec. this publication 118
≡ *Velezia tunicoides* P.H.Davis in Notes Roy. Bot. Gard. Edinburgh 22: 166. 1957. Syn. sec. this publication

Dianthus anticarius **Boiss. & Reut., Pugill. Pl. Afr. Bor. Hispan.: 19. 1852.** Sec. Bernal et al. (1990)
≡ *Dianthus cintranus* subsp. *anticarius* (Boiss. & Reut.) Malag., Pl. Sennen. I: Dianthus 6. 1974 syn. sec. Bernal et al. (1990)
= *Dianthus gaditanus* Boiss., Diagn. Pl. Orient., ser. 2, 1: 67. 1854 syn. sec. Bernal et al. (1990)
= *Dianthus hornemannii* Salzm. ex Boiss., Diagn. Pl. Orient., ser. 2, 1: 67. 1854 syn. sec. Marhold (2011)
= *Dianthus schousboei* Coss. ex Ball in J. Linn. Soc., Bot. 16: 355. 1877 syn. sec. WFO 2018

Dianthus anticarius **subsp.** ***anticarius***

***Dianthus anticarius* subsp. *saorinii* Sánchez-Gómez, M.L.Rodr., López Esp., J.B.Vera & J.F.Jiménez in Anales Biol., Fac. Biol., Univ. Murcia 27: 101. 2005.** Sec. New taxa described to the Flora Iberica region after publication of the respective volumes. Published at http://www.floraiberica.es/eng/miscelania/nuevos_taxones.php

***Dianthus arenarius* L., Sp. Pl.: 412. 1753.** Sec. Czerepanov (1995)
≡ *Tunica arenaria* (L.) Scop., Fl. Carniol., ed. 2, 1: 301. 1771 ≡ *Silene arenaria* (L.) E.H.L.Krause, Deutschl. Fl. Abbild., ed. 2, 5: 115. 1901, nom. illeg. syn. sec. Kew WCVP (2019);
= *Dianthus arenarius* var. *glaucus* Blocki in Oesterr. Bot. Z. 34: 72. 1884 syn. sec. Kew WCVP (2019)
= *Dianthus krylovianus* Juz. in Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 13: 71. 1950 syn. sec. Czerepanov (1995)
= *Dianthus arenarius* var. *suecicus* Novák syn. sec. Czerepanov (1995)

Dianthus arenarius* subsp. *arenarius

***Dianthus arenarius* subsp. *borussicus* Vierh. in Izv. Kievsk. Bot. Sada 12–13: 34. 1931.** Sec. Marhold (2011)
≡ *Dianthus borussicus* (Vierh.) Juz. syn. sec. Marhold (2011)
= *Dianthus arenarius* var. *bohemicus* Novák syn. sec. Kew WCVP (2019) ≡ *Dianthus arenarius* subsp. *bohemicus* (Novák) O.Schwartz in Mitt. Thüring. Bot. Ges. 1: 99. 1949 syn. sec. Kew WCVP (2019)

***Dianthus arenarius* subsp. *pseudoserotinus* (Blocki) Tutin in Feddes Repert. Spec. Nov. Regni Veg. 68: 190. 1963.** Sec. Czerepanov (1995)
≡ *Dianthus pseudoserotinus* Blocki syn. sec. Czerepanov (1995) ≡ *Dianthus serotinus* var. *pseudoserotinus* (Blocki) Zapał., Consp. Fl. Gallic. Crit. 3: 150. 1911 syn. sec. Kew WCVP (2019)

***Dianthus arenarius* subsp. *pseudosquarrosus* (Novák) Kleopow in Izv. Kievsk. Bot. Sada 12–13: 35. 1931.** Sec. Marhold (2011)
≡ *Dianthus arenarius* f. *pseudosquarrosus* Novák in Mem. Soc. Sci. De Bohem 1: 9. 1925 syn. sec. Kew WCVP (2019) ≡ *Dianthus pseudosquarrosus* (Novák) Klokov, Fl. RSS Ucr. 4: 639. 1952 syn. sec. Marhold (2011)

***Dianthus aristatus* Boiss., Asie Min., Bot. 1: 222. 1860.** Sec. Kuzmina & Nersesyan (2012)
≡ *Dianthus zonatus* var. *aristatus* (Boiss.) Reeve, Notes Roy. Bot. Gard. Edinb. 28: 21. 1967 syn. sec. Kuzmina & Nersesyan (2012)
= *Dianthus preobrazhenskii* Klokov in Trudy Silsko-Gosp. Bot. 1(3): 170. 1927 syn. sec. Kuzmina & Nersesyan (2012)

***Dianthus armeria* L., Sp. Pl.: 410. 1753.** Sec. Marhold (2011)
≡ *Caryophyllus armerius* (L.) Moench, Methodus: 59. 1794 syn. sec. POWO. Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew. ≡ *Dianthus armeria* subsp. *armeria* syn. sec. WFO 2018
= *Dianthus hirsutus* Lam., Fl. Franç. 2: 533. 1779 syn. sec. Bernal et al. (1990)
= *Dianthus hirtus* Lam., Fl. Franç. 2: 533. 1779 syn. sec. WFO 2018
= *Dianthus villosus* Gilib., Fl. Lit. Inch. 2: 160. 1782 syn. sec. WFO 2018
= *Dianthus carolinianus* Walter, Fl. Carol.: 140. 1788 syn. sec. WFO 2018
= *Gypsophila armeria* var. *nanus* Boenn., Prodr. Fl. Monast. Westphal.: 124. 1824 syn. sec. Kew WCVP (2019)
= *Dianthus hybridus* F.W.Schmidt ex Tausch in Flora 13: 245. 1830 syn. sec. WFO 2018
= *Dianthus vivariensis* Jord. ex Boreau, Fl. Centre France ed. 3, 2: 91. 1857 syn. sec. WFO 2018
= *Dianthus armeria* var. *laevis* Heuff. in Verh. Zool.-Bot. Ges. Wien 8: 68. 1858 syn. sec. Kew WCVP (2019)
= *Dianthus armeriastrum* Wolfner in Oesterr. Bot. Z. 8: 318. 1858 syn. sec. WFO 2018 ≡ *Dianthus armeria* subsp. *armeria*strum (Wolfner) Velen., Fl. Bulg. Suppl. 1: 42. 1898 syn. sec. WFO 2018
= *Dianthus epirotus* Halácsy in Verh. K. K. Zool.-Bot. Ges. Wien 48: 708. 1898 syn. sec. WFO 2018
= *Silene vaga* E.H.L.Krause, Deutschl. Fl. Abbild., ed. 2, 5: 109. 1901 syn. sec. POWO. Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew.
= *Dianthus pseudocorymbosus* Velen. in Sitzungsber. Königl. Böhm. Ges. Wiss., Math.-Naturwiss. Cl. 8: 6. 1910 ["1911"] syn. sec. Dimopoulos et al. (2013)
= *Dianthus armeria* f. *acaulis* Bolzon in Bull. Soc. Bot. Ital. 1911: 56. 1911 syn. sec. Kew WCVP (2019)
= *Dianthus armeria* f. *caespitosa* Bolzon in Bull. Soc. Bot. Ital. 1911: 56. 1911 syn. sec. Kew WCVP (2019)
= *Dianthus armeria* f. *albiviridis* Lehr in Bull. Torrey Bot. Club 90: 207. 1963 syn. sec. WFO 2018
= *Dianthus armeria* f. *glabrissimus* Sigunov in Glasn. Prir. Muz. Beogradu, C 10: 23. 1977 syn. sec. WFO 2018
= *Dianthus armeria* f. *alba* Stritch in Castanea 48: 58. 1983 syn. sec. WFO 2018

***Dianthus arpadianus* Ade & Bornm. in Repert. Spec. Nov. Regni Veg. 36: 385. 1934.** Sec. Dimopoulos et al. (2013)

***Dianthus arrosti* C.Presl, Delic. Prag.: 60. 1822.** Sec. Marhold (2011)
≡ *Dianthus caryophyllus* var. *arrosti* (C.Presl) Tanfani, Fl. Ital. 9: 283. 1892 syn. sec. WFO 2018 ≡ *Dianthus caryophyllus* subsp. *arrosti* (C.Presl) Arcang., Comp. Fl. Ital. ed. 2: 306. 1894 syn. sec. Marhold (2011) – *Dianthus arrostii* C.Presl, Delic. Prag.: 60. 1822 syn. sec. Marhold (2011) [is orthographic variant for *Dianthus arrosti* C.Presl]
= *Dianthus contractus* Jan ex Lojac., Fl. Sicul. 1: 164. 1889 syn. sec. WFO 2018

***Dianthus* ×*artignanii* Sennen in Bol. Soc. Ibér. Ci. Nat. 25: 145. 1926.** Sec. Bernal et al. (1990)

***Dianthus aticii* Hamzaoğlu in Phytokeys 48: 22. 2015.** Sec. Hamzaoğlu et al. (2015)

***Dianthus atlanticus* Pomel, Nouv. Mat. Fl. Atl. 1: 332. 1874.** Sec. African Plant Database (version 3.4.0)
≡ *Dianthus liburnicus* var. *atlanticus* (Pomel) Chabert in Bull. Soc. Bot. France 38: 383. 1892 ["1891"] syn. sec. Kew WCVP (2019)

***Dianthus atschurensis* Sosn. in Vestn. Tiflissk. Bot. Sada n.s. 1: 74. 1923.** Sec. Kuzmina & Nersesyan (2012)
– *Dianthus azkurensis* Sosn. in Vestn. Tiflissk. Bot. Sada n.s. 1: 74. 1923 syn. sec. this publication [is misspelling for *Dianthus atschurensis* Sosn.]

***Dianthus austroiranicus* Lemperg in Repert. Spec. Nov. Regni Veg. 50: 260. 1941.** Sec. Rechinger (1988)

***Dianthus awaricus* Kharadze in Zametki Sist. Geogr. Rast. 16: 50. 1951.** Sec. Kuzmina & Nersesyan (2012)

***Dianthus aydogdui* Menemen & Hamzaoğlu in Ann. Bot. Fenn. 37: 285. 2000.** Sec. Menemen & Hamzaoğlu (2000)

***Dianthus aytachii* C.Vural in Bot. J. Linn. Soc. 158: 55. 2008.** Sec. Vural (2008)

***Dianthus balansae* Boiss., Fl. Orient. 1: 488. 1867.** Sec. Marhold (2011)

***Dianthus barbatus* L., Sp. Pl.: 409. 1753.** Sec. Marhold (2011)
≡ *Caryophyllus barbatus* (L.) Moench, Methodus: 59. 1794 syn. sec. POWO. Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew. ≡ *Cylichnanthus barbatus* (L.) Dulac, Fl. Hautes-Pyrénées: 261. 1867 syn. sec. POWO. Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew. ≡ *Silene barbata* (L.) E.H.L.Krause, Deutschl. Fl. Abbild., ed. 2, 5: 108. 1901 syn. sec. Kew WCVP (2019); ≡ *Dianthus barbatus* var. *barbatus*
= *Tunica barbata* Scop., Fl. Carniol., ed. 2, 1: 298. 1771 syn. sec. Marhold (2011)
= *Dianthus hispanicus* Dum.Cours. in Bot. Cult. 3: 168. 1802 syn. sec. Kuzmina & Nersesyan (2012)
= *Dianthus latifolius* Willd., Enum. Pl.: 466. 1809 syn. sec. Kuzmina & Nersesyan (2012)
= *Dianthus aggregatus* Poir., Encycl. Suppl. 4: 124. 1816 syn. sec. Kuzmina & Nersesyan (2012)
= *Dianthus corymbosus* F.Dietr., Nachtr. Vollst. Lex. Gärtn. 2: 667. 1816 syn. sec. Kuzmina & Nersesyan (2012)

= *Dianthus barbatus* var. *latifolius* Ser., Prodr. 1: 356. 1824 syn. sec. Kew WCVP (2019)
= *Dianthus barbatus* var. *paniculatus* Ser., Prodr. 1: 356. 1824 syn. sec. Kew WCVP (2019)
= *Dianthus barbatus* var. *pedunculosus* Ser., Prodr. 1: 356. 1824 syn. sec. Kew WCVP (2019)
= *Dianthus pulcherrimus* Loisel., Dict. Sci. Nat. ed. 2, 35: 417. 1825 syn. sec. Kuzmina & Nersesyan (2012)
= *Dianthus splendidissimus* Hoffmanns. in Verz. Pfl.-Kult. Nachtr: 27. 1842 syn. sec. Kuzmina & Nersesyan (2012)
= *Dianthus girardinii* Lamotte in Bull. Soc. Bot. France 21: 120. 1874 syn. sec. Kuzmina & Nersesyan (2012)
= *Dianthus barbatus* var. *asiaticus* Nakai, Tyosen-Syokubutsu: 143. 1914 syn. sec. Marhold (2011)

Dianthus barbatus* subsp. *barbatus

***Dianthus barbatus* subsp. *compactus* (Kit. ex Schult.) Nyman, Consp. Fl. Eur. Suppl. 2(1): 58. 1889.** Sec. Marhold (2011)
≡ *Dianthus compactus* Kit. ex Schult., Oestr. Fl. ed. 2, 1: 654. 1814 syn. sec. Marhold (2011) ≡ *Dianthus barbatus* var. *compactus* (Kit. ex Schult.) Heuff. in Verh. K. K. Zool.-Bot. Ges. Wien 8: 68. 1858 syn. sec. Kuzmina & Nersesyan (2012)

***Dianthus basianicus* Boiss. & Hausskn. ex Boiss., Fl. Orient. Suppl.: 77. 1888.** Sec. Rechinger (1988)

***Dianthus basuticus* Burtt Davy in Bull. Misc. Inform. Kew 1922: 220. 1922.** Sec. African Plant Database (version 3.4.0)
= *Dianthus micropetalus* var. *galpinii* Burtt Davy syn. sec. WFO 2018

Dianthus basuticus* subsp. *basuticus

***Dianthus basuticus* subsp. *fourcadei* S.S.Hooper, Hooker's Icon. Pl. 7 [1]: 20–22. 1959.** Sec. African Plant Database (version 3.4.0)

***Dianthus basuticus* var. *grandiflorus* S.S.Hooper, Hooker's Icon. Pl. 7 [1]: 19. 1959.** Sec. African Plant Database (version 3.4.0)

***Dianthus benearnensis* Loret in Bull. Soc. Bot. France 5: 327. 1858.** Sec. Bernal et al. (1990)
≡ *Dianthus furcatus* subsp. *benearnensis* (Loret) Kerguélen in Lejeunia 120: 79. 1987 syn. sec. IPNI

***Dianthus bessarabicus* (Kleopow) Klokov in Bot. Zhurn. (Kiev) 5: 28. 1948.** Sec. Czerepanov (1995)
≡ *Dianthus polymorphus* subsp. *bessarabicus* Kleopow in Izv. Kievsk. Bot. Sada 14: 114. 1932 syn. sec. Czerepanov (1995)

= *Dianthus polymorphus* var. *bessarabicus* Sanda syn. sec. Czerepanov (1995)

***Dianthus bicolor* Adams in Beitr. Naturk. 1: 55. 1805.** Sec. Kuzmina & Nersesyan (2012)
= *Dianthus caucasicus* M.Bieb., Fl. Taur.-Caucas. 1: 327. 1808 syn. sec. Kuzmina & Nersesyan (2012)
= *Dianthus bicolor* var. *minor* Ser., Prodr. 1: 361. 1824 syn. sec. Kew WCVP (2019)

***Dianthus biflorus* Sm., Fl. Graec. Prodr. 1(2): 285. 1809.** Sec. Dimopoulos et al. (2013)
= *Dianthus binatus* Bartl. ex Rchb., Fl. Germ. Excurs.: 810. 1832 syn. sec. WFO 2018
= *Dianthus cinnabarinus* Spruner ex Boiss., Diagn. Pl. Orient. ser. 1, 6: 22. 1846 syn. sec. WFO 2018
= *Dianthus samaritani* Heldr. ex Halácsy, Consp. Fl. Graec. 1: 213. 1900 syn. sec. WFO 2018 ≡ *Dianthus biflorus* subsp. *samaritanii* (Heldr. ex Halácsy) Maire & Petitm syn. sec. Dimopoulos et al. (2013) – *Dianthus samaritani* Heldr. ex Boiss., Fl. Orient. 1: 511. 1867, nom. inval. syn. sec. Dimopoulos et al. (2013)

***Dianthus boissieri* Willk., Icon. Descr. Pl. Nov. 1: 22. 1853.** Sec. Bernal et al. (1990)
≡ *Dianthus caryophyllus* var. *boissieri* (Willk.) Emb. & Maire, Fl. Afr. Nord 10: 318. 1963 syn. sec. Bernal et al. (1990) ≡ *Dianthus sylvestris* subsp. *boissieri* (Willk.) Dobignard in J. Bot. Soc. Bot. France 20: 37. 2002 syn. sec. WFO 2018
= *Dianthus sylvestris* Boiss., Fl. Orient. 1: 701. 1867 syn. sec. WFO 2018
= *Dianthus caryophyllus* var. *brevifolius* Rouy, Obs. Dianthus France: 3. 1882 syn. sec. Kew WCVP (2019) ≡ *Dianthus caryophyllus* f. *brevifolius* (Rouy) Maire, Fl. Afrique N. 10: 319. 1963 syn. sec. Kew WCVP (2019)
= *Dianthus caryophyllus* var. *longifolius* Rouy, Obs. Dianthus France: 3. 1882 syn. sec. Kew WCVP (2019) ≡ *Dianthus caryophyllus* f. *longifolius* (Rouy) Maire, Fl. Afrique N. 10: 319. 1963 syn. sec. Kew WCVP (2019)
= *Dianthus caryophyllus* var. *longifolius* Maire in Bull. Soc. His. Nat. Afrique N. 22: 36. 1931, nom. illeg. syn. sec. Kew WCVP (2019)
= *Dianthus charmelii* Sennen & Mauricio, Diagn. Nouv.: 246. 1936 syn. sec. WFO 2018 ≡ *Dianthus caryophyllus* f. *charmelii* (Sennen & Mauricio) Maire, Fl. Afr. Nord 10: 319. 1963 syn. sec. WFO 2018
= *Dianthus caryophyllus* var. *tenuicaulis* Maire in Bull. Soc. His. Nat. Afrique N. 30: 333. 1939 syn. sec. Kew WCVP (2019)
– *Dianthus caryophyllus* f. *grandiflorus* Pau & Font Quer, Iter Marocc. 1928: no. 102. 1829, nom. inval. syn. sec. Kew WCVP (2019)
– *Dianthus caryophyllus* f. *emancipatus* Pau & Font Quer, Iter Marocc. 1927: no. 195. 1928, nom. inval. syn. sec. Kew WCVP (2019)

***Dianthus bolusii* Burtt Davy in Bull. Misc. Inform. Kew 1922: 218. 1922.** Sec. African Plant Database (version 3.4.0)

Dianthus borbasii **Vandas in Oesterr. Bot. Z. 36: 193. 1886.** Sec. Kuzmina & Nersesyan (2012)

Dianthus borbonicus **Brullo, C.Brullo, Colombo, Giusso, Ilardi & R.Perrone in Phytotaxa 233: 50. 2015.** Sec. Brullo et al. (2015)

Dianthus brachycalyx **A.Huet & É.Huet ex Bacch., Brullo, Casti & Giusso in Nordic J. Bot. 28: 142. 2010.** Sec. Bacchetta et al. (2010)

Dianthus brevicaulis **Fenzl, Pug. Pl. Nov. Syr.: 10. 1842.** Sec. Bacchetta et al. (2010)

Dianthus brevicaulis **subsp. *brevicaulis***

Dianthus brevicaulis **subsp. *setaceus*** **Reeve in Notes Roy. Bot. Gard. Edinburgh 28: 21. 1967.** Sec. Marhold (2011)

Dianthus brevipetalus **Vved. in Bot. Mater. Gerb. Bot. Inst. Uzbekistansk. Fil. Akad. Nauk S.S.S.R. 3: 9. 1941.** Sec. Czerepanov (1995)

Dianthus broteri **Boiss. & Reut., Pugill. Pl. Afr. Bor. Hispan.: 22. 1852.** Sec. Bernal et al. (1990)

≡ *Dianthus fimbriatus* Brot., Fl. Lusit. 2: 177. 1805, nom. illeg. syn. sec. Bernal et al. (1990)

= *Dianthus serrulatus* var. *barbatus* Boiss., Elench. Pl. Nov.: 19. 1838 syn. sec. Bernal et al. (1990) ≡ *Dianthus serrulatus* subsp. *barbatus* (Boiss.) Greuter & Burdet in Willdenowia 13: 281. 1983 ["1984"] syn. sec. Bernal et al. (1990)

= *Dianthus valentinus* Willk., Icon. Descr. Pl. Nov. 1: 14. 1852 syn. sec. Bernal et al. (1990) ≡ *Dianthus malacitanus* var. *valentinus* (Willk.) Losa & Rivas Goday in Arch. Inst. Aclim. Cons. Super. Invest. Ci. 13(2): 150. 1974 syn. sec. Bernal et al. (1990) ≡ *Dianthus broteri* subsp. *valentinus* (Willk.) Rivas Mart. et al. in Rivasgodaya 6: 29. 1991 syn. sec. Bernal et al. (1990)

= *Dianthus malacitanus* Haens. ex Boiss., Fl. Orient. 1: 85. 1867 syn. sec. Bernal et al. (1990)

= *Dianthus serrulatus* Boiss., Fl. Orient. 1: 84. 1867 syn. sec. Bernal et al. (1990)

= *Dianthus eusebii* Sennen, Diagn. Nouv.: 264. 1936 syn. sec. Bernal et al. (1990)

= *Dianthus absconditus* Fern.Casas in Fontqueria 3: 35. 1983 syn. sec. WFO 2018

= *Dianthus subbaeticus* Fern.Casas in Fontqueria 3: 37. 1983 syn. sec. WFO 2018 ≡ *Dianthus broteri* subsp. *subbaeticus* (Fern.Casas) Fern.Casas, M.Laínz & Muñoz Garm. in Anales Jard. Bot. Madrid 44: 573. 1987 syn. sec. Bernal et al. (1990) ≡ *Dianthus anticarius* subsp. *subbaeticus* (Fern.Casas) Rivas Mart. et al. in Rivasgodaya 6: 28. 1991 syn. sec. Bernal et al. (1990)

= *Dianthus hinoxianus* Gallego in Lagascalia 14: 71. 1986 syn. sec. Bernal et al. (1990) ≡ *Dianthus broteri* subsp. *hinoxianus* (Gallego) Rivas Mart. in Lagascalia 15(Extra): 116. 1988 syn. sec. Bernal et al. (1990)

***Dianthus brutius* Brullo, Scelsi & Spamp., Portugaliae Act. Biol., Sér. B, Sist. 19: 304. 2000.** Sec. Brullo et al. (2000)

Dianthus brutius* subsp. *brutius

***Dianthus brutius* subsp. *pentadactyli* Brullo, Scelsi & Spamp., Portugaliae Act. Biol., Sér. B, Sist. 19: 306. 2000.** Sec. Brullo et al. (2000)

***Dianthus bukovinensis* (Zapał.) Klokov, Fl. RSS Ucr. 4: 606. 1952.** Sec. Czerepanov (1995)
≡ *Dianthus carthusianorum* var. *bucovinensis* Zapał., Consp. Fl. Gallic. Crit. 3: 113. 1911 syn. sec. WFO 2018 – *Dianthus bucoviensis* (Zapał.) Klokov syn. sec. WFO 2018 [is orthographic variant for *Dianthus bukovinensis* (Zapał.) Klokov] – *Dianthus carthusianorum* var. *bucoviensis* Zapał. syn. sec. Czerepanov (1995) [is orthographic variant for *Dianthus carthusianorum* var. *bucovinensis* Zapał.]

***Dianthus burchellii* Ser., Prodr. 1: 359. 1824.** Sec. African Plant Database (version 3.4.0)

***Dianthus burdurensis* Hamzaoğlu & Koç in Phytotaxa 233: 197. 2015.** Sec. Hamzaoğlu & Koç (2015)

***Dianthus busambrae* Soldano & F.Conti, Annot. Checkl. Italian Vasc. Fl.: 18. 2005.** Sec. Bacchetta et al. (2010)
= *Dianthus paniculatus* Lojac. in Malpighia 20: 188. 1906 syn. sec. Bacchetta et al. (2010)

***Dianthus cachemiricus* Edgew. & Hook.f., Fl. Brit. India 1: 214. 1874.** Sec. Rechinger (1988)

***Dianthus caespitosus* Thunb., Prodr. Pl. Cap. 1: 81. 1794.** Sec. African Plant Database (version 3.4.0)

Dianthus caespitosus* subsp. *caespitosus

***Dianthus caespitosus* subsp. *pectinatus* (E.Mey. ex Sond.) S.S.Hooper in Hookers Icon. Pl. 37: 37. 1959.** Sec. African Plant Database (version 3.4.0)
≡ *Dianthus pectinatus* E.Mey. ex Sond., Fl. Cap. 1: 124. 1860 syn. sec. African Plant Database (version 3.4.0)
= *Dianthus prostratus* Jacq., Pl. Hort. Schoenbr. 3: 11. 1798 syn. sec. African Plant Database (version 3.4.0)
= *Dianthus albens* Eckl. & Zeyh., Enum. Pl. Afric. Austral. 1: 32. 1835 syn. sec. WFO 2018
= *Dianthus crenatus* S.T.Edw. syn. sec. African Plant Database (version 3.4.0)

Dianthus callizonus **Schott & Kotschy in Bot. Zeitung (Berlin) 9: 192. 1851.** Sec. Marhold (2011)

Dianthus calocephalus **Boiss., Diagn. Pl. Orient. ser. 1, 6: 23. 1846.** Sec. Kuzmina & Nersesyan (2012)

Dianthus campestris **M.Bieb., Fl. Taur.-Caucas. 1: 326. 1808.** Sec. Marhold (2011)
= *Dianthus hypanicus* Besser ex Rchb., Fl. Germ. Excurs.: 809. 1832 syn. sec. WFO 2018
= *Dianthus pseudoversicolor* Klokov, Fl. RSS Ucr. 4: 660. 1952 syn. sec. WFO 2018
= *Dianthus campestris* subsp. *arenarius* Širj. syn. sec. WFO 2018
= *Dianthus campestris* subsp. *serbanii* Prodán syn. sec. Marhold (2011) ≡ *Dianthus serbanii* (Prodán) Prodán, Fl. Reipubl. Popul. Roman. 2: 670. 1953 syn. sec. Marhold (2011)

Dianthus campestris **subsp. *campestris***

Dianthus campestris **subsp. *laevigatus*** **(Gruner) Klokov, Fl. RSS Ucr. 4: 625. 1952.** Sec. Marhold (2011)
≡ *Dianthus campestris* var. *laevigatus* Gruner in Bull. Soc. Imp. Naturalistes Moscou 41(2): 124. 1868 syn. sec. Marhold (2011) ≡ *Dianthus laevigatus* (Gruner) Klokov in Novosti Sist. Vyssh. Nizsh. Rast. 1980: 99. 1980 syn. sec. Marhold (2011)

Dianthus campestris **subsp. *steppaceus*** **Širj. in Širj. & Lavrenko, Consp. Crit. Fl. Prov. Charkov.: 1. 1926.** Sec. Marhold (2011)

Dianthus candicus **(P.W.Ball & Heywood) Madhani & Heubl in Taxon 67(1): 103. 2018.** Sec. Madhani et al. (2018)
≡ *Petrorhagia candica* P.W.Ball & Heywood in Bull. Brit. Mus. (Nat. Hist.), Bot. 3: 141. 1964 syn. sec. Kew WCVP (2019); ≡ *Fiedleria candica* (P.W.Ball & Heywood) Ovcz., Fl. Tadzhikskoi S.S.R. 3: 608. 1968 syn. sec. Kew WCVP (2019).

Dianthus canescens **K.Koch in Linnaea 15: 710. 1841.** Sec. Kuzmina & Nersesyan (2012)
≡ *Dianthus fimbriatus* var. *canescens* (K.Koch) Boiss., Fl. Orient. 1: 496. 1867 syn. sec. Kuzmina & Nersesyan (2012)

Dianthus capitatus **Balb. ex DC., Cat. Pl. Horti Monsp.: 103. 1813.** Sec. Kuzmina & Nersesyan (2012)

Dianthus capitatus **J.St.-Hil., Pl. France 3: 70. 1809.** Sec. Czerepanov (1995)
= *Dianthus cephalotes* Ser., Prodr. 1: 356. 1824 syn. sec. Czerepanov (1995)
= *Dianthus glaucophyllus* Boiss., Fl. Orient. 1: 514. 1867 syn. sec. Czerepanov (1995)
= *Dianthus capillatus* Meinsh., Beitr. Pfl. Geogr. Sued-Ural-Geb.: 6 syn. sec. Czerepanov (1995)

Dianthus capitellatus **Klokov, Fl. RSS Ucr. 4: 659. 1952.** Sec. Kuzmina & Nersesyan (2012)
≡ *Dianthus borbasii* subsp. *capitellatus* (Klokov) Tutin in Feddes Repert. Spec. Nov. Regni Veg. 68: 192. 1963 syn. sec. Kuzmina & Nersesyan (2012)
= *Dianthus pseudomembranaceus* Schischk. ex Grossh., Fl. Cauc. 2(3): 282. 1945 syn. sec. Kuzmina & Nersesyan (2012)

Dianthus carbonatus **Klokov in Sc. Mag. Biol. 1927: 15. 1927.** Sec. Czerepanov (1995)

Dianthus carmelitarum **Reut. ex Boiss., Fl. Orient. 1: 512. 1867.** Sec. Kuzmina & Nersesyan (2012)
= *Dianthus artwinensis* Schischk. ex Grossh., Fl. Cauc. 2(3): 284. 1945 syn. sec. Kuzmina & Nersesyan (2012)

Dianthus carthusianorum **L., Sp. Pl.: 409. 1753.** Sec. Marhold (2011)
≡ *Tunica carthusianorum* (L.) Scop., Fl. Carniol., ed. 2, 1: 299. 1771 syn. sec. POWO. Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew. ≡ *Caryophyllus carthusianorum* (L.) Moench, Methodus: 59. 1794 syn. sec. POWO. Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew. ≡ *Silene carthusianorum* (L.) E.H.L.Krause, Deutschl. Fl. Abbild., ed. 2, 5: 110. 1901 syn. sec. POWO. Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew.;
= *Dianthus atrorubens* All., Fl. Pedem. 2: 75. 1785 syn. sec. Marhold (2011) ≡ *Caryophyllus atrorubens* (All.) Moench, Suppl. Meth.: 23. 1802 syn. sec. POWO. Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew. ≡ *Dianthus carthusianorum* var. *atrorubens* (All.) Ser., Prodr. 1: 357. 1824 syn. sec. this publication ≡ *Dianthus carthusianorum* subsp. *atrorubens* (All.) Hegi in Allg. Bot. Z. Syst. 17: 15. 1911 syn. sec. Marhold (2011)
= *Dianthus vaginatus* Chaix, Hist. Pl. Dauphiné 1: 330. 1786 syn. sec. WFO 2018 ≡ *Cylichnanthus vaginatus* (Chaix) Dulac, Fl. Hautes-Pyrénées: 261. 1867 syn. sec. Kew WCVP (2019)
= *Dianthus montanus* F.W.Schmidt in Neuere Abh. Königl. Böhm. Ges. Wiss. 1: 30. 1791 syn. sec. WFO 2018
= *Dianthus clavatus* Spreng., Neue Entdeck. Pflanzenk. 2: 169. 1821 syn. sec. WFO 2018
= *Dianthus carthusianorum* var. *anisopodus* Ser., Prodr. 1: 357. 1824 syn. sec. Kew WCVP (2019)
= *Dianthus carthusianorum* var. *nanus* Ser., Prodr. 1: 357. 1824 syn. sec. Kew WCVP (2019)
= *Dianthus nanus* Sweet, Hort. Brit.: 41. 1826 syn. sec. WFO 2018
= *Dianthus atrorubens* var. *intermedius* Gaudin, Fl. Helv. 3: 146. 1828 syn. sec. Kew WCVP (2019)
= *Dianthus carthusianorum* var. *pygmaeus* Gaudin, Fl. Helv. 3: 145. 1828 syn. sec. Kew WCVP (2019)

= *Dianthus allionii* Colla, Herb. Pedem. 1: 297. 1833 syn. sec. WFO 2018
= *Dianthus sanguineus* Vis., Index Seminum (PAD) 1845: 1. 1845 syn. sec. Marhold (2011) ≡ *Dianthus atrorubens* var. *sanguineus* (Vis.) Arcang., Comp. Fl. Ital.: 84. 1882 syn. sec. this publication ≡ *Dianthus carthusianorum* var. *sanguineus* (Vis.) Tanfani, Fl. Ital. 9: 254. 1892 syn. sec. this publication ≡ *Dianthus carthusianorum* subsp. *sanguineus* (Vis.) Hegi in Ill. Fl. Mitt. Eur. 3: 323. 1910 syn. sec. Marhold (2011)
= *Dianthus ferrugineus* Pourr. ex Gren. & Godr., Fl. France 1: 232. 1847 syn. sec. WFO 2018
= *Dianthus gramineus* Schur in Verh. Mitth. Siebenbürg. Vereins Naturwiss. Hermannstadt 4: 11. 1853 syn. sec. WFO 2018
= *Dianthus congestus* Boreau, Fl. Centre France ed. 3, 2: 90. 1857 syn. sec. WFO 2018
= *Dianthus carthusianorum* var. *campestris* Heuff. in Verh. Zool.-Bot. Ges. Wien 8: 68. 1858 syn. sec. Kew WCVP (2019)
= *Dianthus carthusianorum* var. *ternatus* Heuff. in Verh. Zool.-Bot. Ges. Wien 8: 68. 1858 syn. sec. Kew WCVP (2019)
= *Dianthus graminifolius* Schur in Verh. Mitth. Siebenbürg. Vereins Naturwiss. Hermannstadt 10: 144. 1859 syn. sec. WFO 2018
= *Dianthus tenuifolius* Schur in Verh. Mitth. Siebenbürg. Vereins Naturwiss. Hermannstadt 10: 143. 1859 syn. sec. WFO 2018 ≡ *Dianthus carthusianorum* subsp. *tenuifolius* (Schur) Hegi syn. sec. Marhold (2011)
= *Dianthus carthusianorum* var. *saxigenus* Schur, Enum. Pl. Transsilv.: 93. 1866 syn. sec. WFO 2018 ≡ *Dianthus carthusianorum* subsp. *saxigenus* (Schur) Dostál in Folia Mus. Rerum Nat. Bohemiae Occid., Bot. 21: 5. 1984 syn. sec. WFO 2018
= *Dianthus chloaephyllus* Schur, Enum. Pl. Transsilv.: 95. 1866 syn. sec. WFO 2018
= *Dianthus rupicola* Schur, Enum. Pl. Transsilv.: 93. 1866 syn. sec. Schur (1866)
= *Dianthus rupicolus* Schur, Enum. Pl. Transsilv.: 93. 1866 syn. sec. WFO 2018
= *Dianthus subneglectus* Schur, Enum. Pl. Transsilv.: 95. 1866 syn. sec. WFO 2018
= *Dianthus carthusianorum* var. *puberulus* Simonk., Mat. Term. Közlem. 15: 531. 1878 syn. sec. Marhold (2011) ≡ *Dianthus carthusianorum* subsp. *puberulus* (Simonk.) Soó in Feddes Repert. 83: 161. 1972 syn. sec. Marhold (2011) ≡ *Dianthus puberulus* (Simonk.) A.Kern. syn. sec. Marhold (2011)
= *Dianthus atropurpureus* Gromov ex Trautv. in Trudy Imp. S.-Peterburgsk. Bot. Sada 8: 130. 1883 syn. sec. WFO 2018
= *Dianthus carpathicus* Woł., Spraw. Komis. Fizjogr. 22(2): 214. 1888 syn. sec. WFO 2018
= *Dianthus semperflorens* Voss in Gartenflora 44: 514. 1895 syn. sec. WFO 2018
= *Dianthus carthusianorum* var. *brachyanthus* Dörfl. & Hayek in Oesterr. Bot. Z. 70: 12. 1921 syn. sec. Kew WCVP (2019)
= *Dianthus carthusianorum* var. *longisquamis* Kulcz., Fl. Polska 2: 159. 1921 syn. sec. WFO 2018
= *Dianthus ceretanicus* Sennen in Bol. Soc. Ibér. Ci. Nat. 25: 147. 1926 syn. sec. WFO 2018
= *Dianthus carthusianorum* var. *tenorei* Lacaita in Nuovo Giorn. Bot. Ital. n.s., 34: 188. 1927 syn. sec. WFO 2018 ≡ *Dianthus carthusianorum* subsp. *tenorei* (Lacaita) Pignatti in Giorn. Bot. Ital. 111: 46. 1977 syn. sec. Marhold (2011)

= *Dianthus montivagus* Domin in Acta Bot. Bohem. 8: 53. 1929 syn. sec. WFO 2018
= *Dianthus velebiticus* Borbás ex Degen, Fl. Veleb. 2: 97. 1937 syn. sec. WFO 2018
= *Dianthus carthusianorum* var. *capillifrons* Borbás syn. sec. Marhold (2011) ≡ *Dianthus capillifrons* (Borbás) H.Neumayer in Oesterr. Bot. Z. 91: 236. 1942 syn. sec. WFO 2018 ≡ *Dianthus carthusianorum* subsp. *capillifrons* (Borbás) Soó in Acta Bot. Acad. Sci. Hung. 23: 391. 1977 ["1978"] syn. sec. Marhold (2011)
= *Dianthus carthusianorum* var. *parviflorus* Čelak. syn. sec. WFO 2018 ≡ *Dianthus carthusianorum* subsp. *parviflorus* (Čelak.) Dostál in Folia Mus. Rerum Nat. Bohemiae Occid., Bot. 21: 5. 1984 syn. sec. WFO 2018
= *Dianthus sanguineus* var. *atrisquamatus* Novák syn. sec. WFO 2018 ≡ *Dianthus carthusianorum* f. *atrisquamatus* (Novák) Gajić, Fl. SR Srbije 9: 64. 1977 syn. sec. WFO 2018
– *Dianthus fasciculatus* Gilib., Fl. Lit. Inch. 2: 161. 1782, nom. inval. syn. sec. WFO 2018

Dianthus carthusianorum* subsp. *carthusianorum

***Dianthus carthusianorum* subsp. *latifolius* (Griseb. & Schenk) Hegi in Allg. Bot. Z. Syst. 17: 13. 1911.** Sec. Marhold (2011)
≡ *Dianthus carthusianorum* var. *latifolius* Griseb. & Schenk in Arch. Naturgesch. 18: 300. 1852 syn. sec. WFO 2018
= *Dianthus montivagus* var. *carsticus* Novák syn. sec. Kew WCVP (2019) ≡ *Dianthus carthusianorum* subsp. *carsticus* (Novák) Dostál in Folia Mus. Rerum Nat. Bohemiae Occid., Bot. 21: 5. 1984 syn. sec. Kew WCVP (2019)

***Dianthus carthusianorum* subsp. *polonicus* (Zapał.) Kovanda in Preslia 56: 297. 1984.** Sec. WFO 2018
≡ *Dianthus polonicus* Zapał., Consp. Fl. Gallic. Crit. 3: 122. 1911 syn. sec. WFO 2018 ≡ *Dianthus carthusianorum* var. *polonicus* (Zapał.) Kulcz., Fl. Polska 2: 159. 1921 syn. sec. WFO 2018

***Dianthus carthusianorum* subsp. *sudeticus* Kovanda in Preslia 52: 122. 1980.** Sec. Marhold (2011)

***Dianthus caryophyllus* L., Sp. Pl.: 410. 1753.** Sec. Marhold (2011)
≡ *Silene caryophylla* (L.) E.H.L.Krause, Deutschl. Fl. Abbild., ed. 2, 5: 111. 1901 syn. sec. POWO. Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew.; ≡ *Dianthus caryophyllus* var. *coronarius* L., Sp. Pl. 1: 410. 1753 syn. sec. Domina et al. (2021) ≡ *Dianthus caryophyllus* subsp. *coronarius* (L.) Maire, Fl. Afrique N. 10: 318. 1963 syn. sec. this publication ≡ *Tunica caryophyllus* (L.) Scop., Fl. Carniol., ed. 2, 1: 301. 1771 syn. sec. POWO. Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew.; – *Dianthus coronarius* (L.) Burm.f., Fl. Ind. Prodr. Fl. Cap.: 13. 1768, nom. illeg. syn. sec. Domina et al. (2021) – *Dianthus coronarius* Lam., Fl. Franç. 2: 536. 1779, nom. illeg. syn. sec. Domina et al. (2021)
= *Caryophyllus tunica* Garsault, Fig. Pl. Méd.: t. 203. 1764 syn. sec. POWO. Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew.

= *Dianthus moschatus* J.F.Gmel., Syst. Nat.: 711. 1791 syn. sec. Kuzmina & Nersesyan (2012)
= *Dianthus caryophyllus* var. *minor* Gray, Nat. Arr. Brit. Pl. 2: 644. 1822 ["1821"] syn. sec. Kew WCVP (2019)
= *Dianthus caryophyllus* var. *carduinus* Ser., Prodr. 1: 359. 1824 syn. sec. Kew WCVP (2019)
= *Dianthus corsicus* Link ex Spreng., Syst. Veg., ed. 16, 2: 376. 1825 syn. sec. Kuzmina & Nersesyan (2012)
= *Dianthus arbuscula* Lindl. in Bot. Reg. 13: t. 1086. 1827 syn. sec. Kuzmina & Nersesyan (2012)
= *Dianthus arrectus* Dumort., Fl. Belg.: 196. 1827 syn. sec. Kuzmina & Nersesyan (2012)
= *Dianthus caryophyllus* var. *wakefieldii* C.Morren, Hort. Belge 2: 7. 1834 syn. sec. Kew WCVP (2019)
= *Dianthus multinervis* Vis., Fl. Dalmat. 3: 164. 1850 syn. sec. Kuzmina & Nersesyan (2012)
= *Dianthus longicaulis* Costa, Introd. Fl. Cataluña: 36. 1864 syn. sec. Kuzmina & Nersesyan (2012)
= *Dianthus acinifolius* Schur, Enum. Pl. Transsilv.: 97. 1866 syn. sec. Kuzmina & Nersesyan (2012)
= *Dianthus binatus* Schur, Enum. Pl. Transsilv.: 97. 1866 syn. sec. Kuzmina & Nersesyan (2012)
= *Dianthus kayserianus* Schur, Enum. Pl. Transsilv.: 97. 1866 syn. sec. Kuzmina & Nersesyan (2012)
= *Dianthus miniatus* A.Huet ex Nyman, Consp. Fl. Eur. 1: 105. 1878 syn. sec. Kuzmina & Nersesyan (2012)
= *Dianthus caryophyllus* f. *intermedius* Pamp. in Boll. Mus. Republ. San Marino 1: 142. 1917 syn. sec. Kew WCVP (2019)

***Dianthus caucaseus* Sims in Bot. Mag. 21: t. 795. 1804.** Sec. Kuzmina & Nersesyan (2012)
= *Dianthus discolor* Sims in Bot. Mag. 29: t. 1162. 1808 syn. sec. Kuzmina & Nersesyan (2012)

***Dianthus charidemi* Pau in Bull. Acad. Int. Geogr. Bot. 16(206): 74. 1906.** Sec. Bernal et al. (1990)
≡ *Dianthus cintranus* subsp. *charidemi* (Pau) Tutin in Feddes Repert. Spec. Nov. Regni Veg. 68: 190. 1963 syn. sec. Bernal et al. (1990)

***Dianthus chimanimaniensis* S.S.Hooper in Kew Bull. 13: 318. 1958.** Sec. African Plant Database (version 3.4.0)

***Dianthus chinensis* L., Sp. Pl.: 411. 1753.** Sec. Dequan & Turland (2001)

= *Dianthus sequieri* Chaix, Vill. Fl. Dauph. 1: 330. 1786 syn. sec. Dequan & Turland (2001)
= *Dianthus pulcher* Salisb., Prodr. Stirp. Chap. Allerton: 303. 1796 syn. sec. Dequan & Turland (2001)
= *Dianthus scaber* Schleich. ex Suter, Helvet. Fl. 1: 259. 1802 syn. sec. Dequan & Turland (2001) ≡ *Dianthus serratus* var. *scaber* (Schleich. ex Suter) DC., Fl. Franç., ed. 3, 5: 601. 1815 syn. sec. this publication ≡ *Dianthus collinus* var. *scaber* (Schleich. ex Suter) Gaudin, Fl. Helv. 3: 147. 1828 syn. sec. this publication
= *Dianthus tataricus* Fisch., Cat. Jard. Gorenki ed. 2: 59. 1812 syn. sec. Dequan & Turland (2001)
= *Dianthus umbellatus* DC., Cat. Pl. Horti Monsp.: 104. 1813 syn. sec. Dequan & Turland (2001)
= *Dianthus ibericus* Willd., Enum. Pl., Suppl.: 24. 1814 syn. sec. Dequan & Turland (2001)
= *Dianthus patens* Willd., Enum. Pl., Suppl.: 24. 1814 syn. sec. Dequan & Turland (2001)
= *Dianthus fischeri* Spreng., Pl. Min. Cogn. Pug. 2: 62. 1815 syn. sec. Dequan & Turland (2001)
= *Dianthus ruthenicus* Roem. ex Poir., Encycl. Suppl. 4: 131. 1816 syn. sec. Dequan & Turland (2001)
= *Dianthus ochroleucus* Link, Enum. Hort. Berol. Alt. 1: 420. 1821 syn. sec. Dequan & Turland (2001)
= *Dianthus versicolor* Fisch. ex Link, Enum. Hort. Berol. Alt. 1: 420. 1821 syn. sec. Dequan & Turland (2001) ≡ *Dianthus chinensis* var. *versicolor* (Fisch. ex Link) Y.C.Ma, Fl. Intramongolica 2: 191. 1978 ["1979"] syn. sec. Dequan & Turland (2001) ≡ *Dianthus chinensis* subsp. *versicolor* (Fisch. ex Link) Vorosch., Florist. Issl. Razn. Rayonakh SSSR: 167. 1985 syn. sec. Dequan & Turland (2001)
= *Dianthus willdenowii* Link, Enum. Hort. Berol. Alt. 1: 420. 1821 syn. sec. Dequan & Turland (2001)
= *Dianthus schraderi* Rchb. in Iconogr. Bot. Exot. 1: 24. 1824 syn. sec. Dequan & Turland (2001)
= *Dianthus dentosus* Fisch. ex Rchb. in Iconogr. Bot. Pl. Crit. 6: 32. 1828 syn. sec. Dequan & Turland (2001) ≡ *Dianthus chinensis* var. *dentosus* (Fisch. ex Rchb.) Debeaux in Act. Simpo. Internac. Bot. Pius Font Quer 31: 124. 1876 syn. sec. Dequan & Turland (2001) ≡ *Dianthus seguieri* var. *dentosus* (Fisch. ex Rchb.) Franch., Pl. David. 1: 46. 1884 syn. sec. Dequan & Turland (2001) ≡ *Dianthus sequieri* var. *dentosus* (Fisch. ex Rchb.) Franch., Pl. David. 1: 46. 1884 syn. sec. Dequan & Turland (2001)
= *Dianthus sinensis* Link, Handbuch 2: 237. 1831 syn. sec. Dequan & Turland (2001)
= *Dianthus chinensis* var. *sylvaticus* W.D.J.Koch, Syn. Fl. Germ. Helv.: 96. 1835 syn. sec. Dequan & Turland (2001)
= *Dianthus altaicus* Willd. ex Ledeb., Fl. Ross. 1: 278. 1842 syn. sec. Dequan & Turland (2001)

= *Dianthus jeniseensis* Less. ex Ledeb., Fl. Ross. 1: 278. 1842 syn. sec. Dequan & Turland (2001)
= *Dianthus chinensis* var. *macrosepalus* Franch. ex L.H.Bailey, Cycl. Amer. Hort.: 100. 1900 syn. sec. Dequan & Turland (2001)
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= *Dianthus morii* Nakai in Bot. Mag. (Tokyo) 28: 302. 1914 syn. sec. Dequan & Turland (2001) ≡ *Dianthus chinensis* var. *morii* (Nakai) Y.C.Chu, Fl. Plant. Herb. Chinae bor.-or. 3: 49. 1975 syn. sec. Dequan & Turland (2001)
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= *Dianthus albus* Schkuhr ex Steud., Nomencl. Bot., ed. 2, 1: 498. 1840 syn. sec. WFO 2018
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= *Dianthus cylleneus* Boiss. & Heldr. in Boissier, Diagn. Pl. Orient., ser. 2, 1: 63. 1854 syn. sec. WFO 2018
= *Dianthus syriacus* F.N.Williams in J. Bot. 23: 346. 1885 syn. sec. WFO 2018
= *Dianthus glandulosopubescens* Halácsy in Verh. K. K. Zool.-Bot. Ges. Wien 48: 706. 1898 syn. sec. WFO 2018

***Dianthus dilepis* Rech.f. in Bot. Jahrb. Syst. 75: 361. 1951.** Sec. Rechinger (1988)

***Dianthus diversifolius* Assadi in Iranian J. Bot. 3: 40. 1985.** Sec. Rechinger (1988)

***Dianthus dobrogensis* Prodán in Bul. Acad. Stud. Agron. Cluj 5(1): 97. 1934.** Sec. Marhold (2011)

***Dianthus ×dufftii* Hausskn. ex Asch. in Oesterr. Bot. Z. 26: 259. 1876**

***Dianthus edetanus* (M.B.Crespo & Mateo) M.B.Crespo & Mateo in Flora Montiber. 40: 64. 2008.** Sec. Mateo Sanz & Crespo (2008)
≡ *Dianthus hispanicus* subsp. *edetanus* M.B.Crespo & Mateo in Flora Montiber. 20: 7. 2002 syn. sec. Mateo Sanz & Crespo (2008)

***Dianthus elatus* Ledeb., Fl. Altaic. 2: 136. 1830.** Sec. Dequan & Turland (2001)

***Dianthus elbrusensis* Kharadze in Zametki Sist. Geogr. Rast. 21: 48. 1959.** Sec. Kuzmina & Nersesyan (2012)

***Dianthus eldivenus* Czeczott in Acta Soc. Bot. Poloniae 9: 33. 1932.** Sec. Marhold (2011)

***Dianthus elegans* d'Urv., Mém. Soc. Linn. Paris 1: 302. 1822.** Sec. Dimopoulos et al. (2013)
= *Dianthus actinopetalus* Fenzl, Pug. Pl. Nov. Syr.: 11. 1842 syn. sec. WFO 2018
= *Dianthus cous* Boiss., Diagn. Pl. Orient. ser. 1 1: 20. 1843 syn. sec. WFO 2018
= *Dianthus wawrae* Freyn ex Boiss., Fl. Orient. Suppl.: 79. 1888 syn. sec. WFO 2018

***Dianthus elymaiticus* Hausskn. & Bornm. in Beih. Bot. Centralbl. 19(2): 213. 1905.** Sec. Rechinger (1988)

***Dianthus engleri* Hausskn. & Bornm. in Mitt. Geogr. Ges. (Thüringen) Jena 9: 15. 1891.** Sec. Marhold (2011)

***Dianthus eretmopetalus* Stapf in Denkschr. Kaiserl. Akad. Wiss., Wien. Math.-Naturwiss. Kl. 51: 349. 1886.** Sec. Marhold (2011)

***Dianthus erinaceus* Boiss., Diagn. Pl. Orient. ser. 1 1: 21. 1843.** Sec. Marhold (2011)
= *Dianthus webbianus* Parl. ex Vis. in Atti Riunione Sci. Ital. 2: 180. 1841 syn. sec. Marhold (2011)

***Dianthus ernesti-mayeri* Micevski & Matevski in Razpr. Slov. Akad. Znan. Umetn., Razr. Nar. Vede 42: 155. 2001.** Sec. WFO 2018

***Dianthus erythrocoleus* Boiss., Fl. Orient. 1: 493. 1867.** Sec. Rechinger (1988)

***Dianthus eugeniae* Kleopow in Izv. Kievsk. Bot. Sada 12–13: 157. 1931.** Sec. Czerepanov (1995)
= *Dianthus tesquicola* Klokov in Bot. Zhurn. (Kiev) 5: 26. 1948 syn. sec. Czerepanov (1995)

***Dianthus excelsus* S.S.Hooper in Hookers Icon. Pl. 37: 13. 1959.** Sec. African Plant Database (version 3.4.0)
= *Dianthus angolensis* subsp. *orientalis* Turrill in Kew Bull. 9: 49. 1954 syn. sec. African Plant Database (version 3.4.0)

***Dianthus falconeri* Edgew. & Hook.f., Fl. Brit. India 1: 214. 1874.** Sec. Ghanzafar & Nasir (1986)

***Dianthus ×fallens* Timb.-Lagr. in Bull. Soc. Bot. France 5: 329. 1858.** Sec. Bernal et al. (1990)
≡ *Dianthus ×tener* subsp. *fallens* (Timb.-Lagr.) Nyman, Consp. Fl. Eur.: 104. 1878 syn. sec. Bernal et al. (1990) ≡ *Dianthus ×monspessulanus* var. *fallens* (Timb.-Lagr.) Pau in Bol. Soc. Aragonesa Ci. Nat. 4: 187. 1905 syn. sec. Bernal et al. (1990)
= *Dianthus ×borderei* Rouy & Foucaud, Fl. France 3: 183. 1896 syn. sec. Kew WCVP (2019) – *Dianthus ×borderi* Rouy & Foucaud, Fl. France 3: 183. 1896 syn. sec. Bernal et al. (1990) [is misspelling for *Dianthus ×borderi* Rouy & Foucaud]

***Dianthus fasciculatus* (Boiss.) Fassou, N.Korotkova, Dimop. & Borsch.** Sec. this publication 141
≡ *Velezia fasciculata* Boiss., Diagn. Pl. Orient., ser. 1, 8: 92. 1849

***Dianthus ferrugineus* Mill., Gard. Dict., ed. 8: 9. 1768.** Sec. Marhold (2011)
= *Dianthus balbisii* Ser., Prodr. 1: 356. 1824 syn. sec. Marhold (2011) ≡ *Dianthus carthusianorum* var. *balbiosii* (Ser.) Tanfani, Fl. Ital. 9: 253. 1892 syn. sec. Kew WCVP (2019)
= *Dianthus balbisii* var. *paniculatus* Ser., Prodr. 1: 356. 1824 syn. sec. Kew WCVP (2019)
= *Dianthus glaucophyllus* Hornem. ex Ser., Prodr. 1: 356. 1824 syn. sec. WFO 2018
= *Dianthus propinquus* Schur, Enum. Pl. Transsilv.: 94. 1866 syn. sec. WFO 2018
= *Dianthus ligusticus* Willd. ex Nyman, Consp. Fl. Eur. 1: 103. 1878 syn. sec. WFO 2018
= *Dianthus rosulatus* Borbás ex Nyman, Consp. Fl. Eur. 1: 103. 1878 syn. sec. WFO 2018
= *Dianthus albaceteanus* Huter in Oesterr. Bot. Z. 54: 339. 1904 syn. sec. Peruzzi & Gargano (2006)

Dianthus ferrugineus* subsp. *ferrugineus

***Dianthus ferrugineus* subsp. *liburnicus* (Bartl.) Tutin in Feddes Repert. Spec. Nov. Regni Veg. 68: 191. 1963.** Sec. Marhold (2011)
≡ *Dianthus liburnicus* Bartl. in Beitr. Bot. 2: 52. 1825 syn. sec. Marhold (2011) ≡ *Dianthus balbisii* subsp. *liburnicus* (Bartl.) Pignatti in Giorn. Bot. Ital. 111: 45. 1977 syn. sec. Marhold (2011)
= *Dianthus liburnicus* var. *albiflorus* Caldesi in Nuovo Giorn. Bot. Ital. 11: 338. 1879 syn. sec. Kew WCVP (2019)

***Dianthus floribundus* Boiss., Asie Min., Bot. 1: 221. 1860.** Sec. Kuzmina & Nersesyan (2012)
= *Dianthus schischkinii* Grossh. in Bot. Mater. Gerb. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 11: 83. 1949 syn. sec. Kuzmina & Nersesyan (2012)
= *Dianthus woronowii* Schischk. in sched. herb. LE syn. sec. Kuzmina & Nersesyan 2012 syn. sec. Kuzmina & Nersesyan (2012)

***Dianthus formanekii* Borbás ex Formánek in Verh. Naturf. Vereins Brünn 32: 39. 1894.** Sec. Dimopoulos et al. (2013)

***Dianthus fragrans* Adams in Weber u. Mohr, Beitr. Naturk. 1: 56. 1805.** Sec. Kuzmina & Nersesyan (2012)
= *Dianthus fragrans* M.Bieb., Fl. Taur.-Caucas. 1: 331. 1808 syn. sec. this publication
= *Dianthus liboschitzianus* Hohen. ex Boiss., Fl. Orient. 1: 491. 1867 syn. sec. Czerepanov (1995)
= *Dianthus tichomirovii* Devyatov, Taisumov & Teimurov in Byull. Moskovsk. Obshch. Isp. Prir., Otd. Biol. n.s. 104(2): 37. 1999 syn. sec. Kuzmina & Nersesyan (2012)
Notes: – Although Bieberstein (1808) didn't mention Adams (1805) as an author of *D. fragrans* in his 1st volume of the Flora Taurica-Caucasica, the descriptions are very similar and very likely refer to the same species.

***Dianthus freynii* Vandas in Sitzungsber. Königl. Böhm. Ges. Wiss., Math.-Naturwiss. Cl. 1889(2): 255. 1890.** Sec. Marhold (2011)

***Dianthus fruticosus* L., Sp. Pl.: 413. 1753.** Sec. Dimopoulos et al. (2013)
= *Dianthus frutescens* Houtt., Nat. Hist. 2(5): 109. 1775 syn. sec. WFO 2018

***Dianthus fruticosus* subsp. *amorginus* Runemark in Bot. Not. 133(4): 485. 1980.** Sec. Dimopoulos et al. (2013)

***Dianthus fruticosus* subsp. *carpathus* Runemark in Bot. Not. 133(4): 487. 1980.** Sec. Dimopoulos et al. (2013)

***Dianthus fruticosus* subsp. *creticus* (Tausch) Runemark in Bot. Not. 133(4): 488. 1980.** Sec. Dimopoulos et al. (2013)
≡ *Dianthus creticus* Tausch in Flora 13: 247. 1830 syn. sec. WFO 2018

Dianthus fruticosus* subsp. *fruticosus

***Dianthus fruticosus* subsp. *karavius* Runemark in Bot. Not. 133(4): 487. 1980.** Sec. Dimopoulos et al. (2013)

***Dianthus fruticosus* subsp. *occidentalis* Runemark in Bot. Not. 133: 483. 1980.** Sec. Dimopoulos et al. (2013)

***Dianthus fruticosus* subsp. *rhodius* (Rech.f.) Runemark in Bot. Not. 133: 486. 1980.** Sec. Dimopoulos et al. (2013)
≡ *Dianthus rhodius* Rech.f. in Denkschr. Akad. Wiss. Wien, Math.-Naturwiss. Kl. 105: 156. 1943 syn. sec. WFO 2018

***Dianthus fruticosus* subsp. *sitiacus* Runemark in Bot. Not. 133(4): 488. 1980.** Sec. Dimopoulos et al. (2013)

***Dianthus furcatus* Balb., Mém. Acad. Sci. Turin, Sci. Phys. 10–11: 13. 1804.** Sec. Marhold (2011)
= *Dianthus alpester* Balb., Mém. Acad. Sci. Turin, Sci. Phys. 1: 13. 1802 syn. sec. Marhold (2011) ≡ *Dianthus carthusianorum* subsp. *alpester* (Balb.) Pers., Syn. Pl. 1: 493. 1805 syn. sec. Kew WCVP (2019)
= *Dianthus pungens* Gren. & Godr., Fl. France 1: 234. 1847 syn. sec. WFO 2018

***Dianthus furcatus* subsp. *dissimilis* (Burnat) Pignatti in Giorn. Bot. Ital. 107: 209. 1973.** Sec. Marhold (2011)
≡ *Dianthus furcatus* var. *dissimilis* Burnat, Fl. Alpes Marit. 1: 230. 1892 syn. sec. Marhold (2011)

Dianthus furcatus* subsp. *furcatus

***Dianthus furcatus* subsp. *gyspergerae* (Rouy) Burnat ex Briq., Prodr. Fl. Corse 1: 572. 1910.** Sec. Marhold (2011)
≡ *Dianthus gyspergerae* Rouy in Rev. Bot. Syst. Géogr. Bot. 1: 132. 1903 syn. sec. Marhold (2011)

***Dianthus furcatus* subsp. *lereschii* (Burnat) Pignatti in Giorn. Bot. Ital. 107: 209. 1973.** Sec. Marhold (2011)
≡ *Dianthus furcatus* var. *lereschii* Burnat, Fl. Alpes Marit. 1: 230. 1892 syn. sec. Marhold (2011)
= *Dianthus tener* Balb., Mém. Acad. Sci. Turin, Sci. Phys. 1: 14. 1802 syn. sec. Marhold (2011) ≡ *Dianthus strictus* var. *tener* (Balb.) Tanfani, Fl. Ital. 9: 272. 1892 syn. sec. Kew WCVP (2019) ≡ *Dianthus furcatus* subsp. *tener* (Balb.) Tutin in Feddes Repert. Spec. Nov. Regni Veg. 68: 189. 1963 syn. sec. Marhold (2011)

***Dianthus gabrielianiae* Nersesian in Takhtajania 1: 45. 2011.** Sec. Kuzmina & Nersesyan (2012)

***Dianthus gasparrinii* Guss., Fl. Sicul. Syn. 1: 479. 1843.** Sec. Bacchetta et al. (2010)
≡ *Dianthus caryophyllus* subsp. *gasparrinii* (Guss.) Arcang., Comp. Fl. Ital. ed. 2: 306. 1894 syn. sec. Bacchetta et al. (2010)

***Dianthus geminiflorus* Loisel., Fl. Gall. 2: 725. 1807.** Sec. Bernal et al. (1990)
≡ *Dianthus furcatus* subsp. *geminiflorus* (Loisel.) Tutin in Feddes Repert. Spec. Nov. Regni Veg. 68: 189. 1963 syn. sec. WFO 2018

***Dianthus genargenteus* Bacch., Brullo, Casti & Giusso in Nordic J. Bot. 28: 145. 2010.** Sec. Bacchetta et al. (2010)

***Dianthus giganteiformis* Borbás in Oesterr. Bot. Z. 41: 32. 1891.** Sec. Marhold (2011)
≡ *Dianthus sabuletarum* Heuff. in Oesterr. Bot. Z. 8: 26. 1858 syn. sec. WFO 2018
= *Dianthus pontederae* A.Kern., Sched. Fl. Exs. Austro-Hung. 2: 539. 1882 ["1883"] syn. sec. WFO 2018 ≡ *Dianthus carthusianorum* subsp. *pontederae* (A.Kern.) Hegi in Allg. Bot. Z. Syst. 17: 16. 1911 syn. sec. WFO 2018 ≡ *Dianthus giganteiformis* subsp. *pontederae* (A.Kern.) Soó in Acta Bot. Acad. Sci. Hung. 15: 339. 1969 ["1970"] syn. sec. WFO 2018 ≡ *Dianthus sabuletorum* subsp. *pontederae* (A.Kern.) Holub in Folia Geobot. Phytotax. 19: 214. 1984 syn. sec. WFO 2018
= *Dianthus tenuifolius* subsp. *serpentini* Podp., Spisy Přír. Fak. Masarykovy Univ. 12: 20. 1922 syn. sec. WFO 2018 ≡ *Dianthus sabuletorum* subsp. *serpentini* (Podp.) Holub in Folia Geobot. Phytotax. 19: 214. 1984 syn. sec. WFO 2018

= *Dianthus urziceniensis* Prodán, Fl. Reipubl. Popul. Roman. 2: 667. 1953 syn. sec. WFO 2018
= *Dianthus diutinus* Rchb., Icon. Fl. Germ. Helv. 6: 44. 1844, nom illeg syn. sec. WFO 2018
= *Dianthus giganteiformis* var. *comanae* Prodán syn. sec. WFO 2018 ≡ *Dianthus comanae* (Prodán) Prodán, Fl. Reipubl. Popul. Roman. 2: 284. 1953 syn. sec. WFO 2018

Dianthus giganteiformis* subsp. *giganteiformis

***Dianthus giganteiformis* subsp. *kladovanus* (Degen) Soó in Feddes Repert. 83: 161. 1972.** Sec. Marhold (2011)
≡ *Dianthus kladovanus* Degen in Magyar Bot. Lapok 4: 122. 1905 syn. sec. Marhold (2011) ≡ *Dianthus sabuletorum* subsp. *kladovanus* (Degen) Holub in Folia Geobot. Phytotax. 19: 214. 1984 syn. sec. Marhold (2011)

***Dianthus giganteus* d'Urv., Mém. Soc. Linn. Paris 1: 301. 1822.** Sec. Dimopoulos et al. (2013)
= *Dianthus intermedius* Boiss., Fl. Orient. 1: 515. 1867 syn. sec. Marhold (2011)
= *Dianthus haynaldianus* Borbás in Oesterr. Bot. Z. 38: 144. 1888 syn. sec. Marhold (2011) ≡ *Dianthus giganteus* subsp. *haynaldianus* (Borbás) Tutin in Feddes Repert. Spec. Nov. Regni Veg. 69: 191. 1963 syn. sec. WFO 2018
= *Dianthus subgiganteus* Borbás ex Formánek in Verh. Naturf. Vereins Brünn 32: 181. 1894 syn. sec. WFO 2018 ≡ *Dianthus giganteus* subsp. *subgiganteus* (Borbás ex Formánek) Hayek in Denkschr. Kaiserl. Akad. Wiss., Wien. Math.-Naturwiss. Kl. 94: 138. 1917 syn. sec. WFO 2018

***Dianthus giganteus* subsp. *banaticus* (Heuff.) Tutin in Feddes Repert. Spec. Nov. Regni Veg. 68: 191. 1963.** Sec. Marhold (2011)
≡ *Dianthus carthusianorum* var. *banaticus* Heuff. syn. sec. Marhold (2011) ≡ *Dianthus banaticus* (Heuff.) Dörfl., Exsicc. (Herb. Norm.) 1894: 3018. 1894 syn. sec. Marhold (2011)

***Dianthus giganteus* subsp. *croaticus* (Borbás) Tutin in Feddes Repert. Spec. Nov. Regni Veg. 70: 4. 1964.** Sec. Marhold (2011)
≡ *Dianthus croaticus* Borbás in Bot. Jahresber. (Just) 4: 1059. 1877 syn. sec. Marhold (2011)

Dianthus giganteus* subsp. *giganteus

***Dianthus giganteus* subsp. *vandasii* (Velen.) Stoj. & Acht., Sborn. Blghar. Akad. Nauk 29: 43. 1935.** Sec. Marhold (2011)
≡ *Dianthus vandasii* Velen. in Sitzungsber. Königl. Böhm. Ges. Wiss., Math.-Naturwiss. Cl. 1892: 16. 1893 syn. sec. Marhold (2011)

***Dianthus glabriusculus* (Kit.) Borbás in Verh. Bot. Vereins Prov. Brandenburg 19: 19. 1877.** Sec. Czerepanov (1995)
≡ *Dianthus collinus* var. *glabriusculus* Kit. in Linnaea 32: 528. 1863 syn. sec. Czerepanov (1995) ≡ *Dianthus collinus* subsp. *glabriusculus* (Kit.) Thaisz in Bot. Közlem. 8: 252. 1910 syn. sec. Czerepanov (1995)
= *Dianthus glabriusculus* subsp. *moldavicus* Prodán in Bul. Soc. Sti. Cluj. 10: 158. 1948 syn. sec. Czerepanov (1995) ≡ *Dianthus piatra-neamtzui* Prodán, Fl. Reipubl. Popul. Roman. 2: 234. 1953 syn. sec. Czerepanov (1995)
= *Dianthus collinus* subsp. *glabriusculus* Soó syn. sec. Czerepanov (1995)

***Dianthus glacialis* Haenke in Collectanea 2: 84. 1788.** Sec. Marhold (2011)
≡ *Dianthus alpinus* var. *glacialis* (Haenke) Regel in Bull. Soc. Imp. Naturalistes Moscou 34(2): 533. 1862, nom. illeg.
= *Dianthus glacialis* var. *acaulis* Ser., Prodr. 1: 362. 1824 syn. sec. Kew WCVP (2019)
= *Dianthus glacialis* var. *latifolius* Ser., Prodr. 1: 362. 1824 syn. sec. Kew WCVP (2019)
= *Dianthus alpinus* var. *subacaulis* Roth, Enum. Pl. Phaen. Germ. 1(2): 282. 1827 syn. sec. Kew WCVP (2019)
= *Dianthus glacialis* f. *reducta* Fornac. in Giorn. Bot. Ital. 107: 246. 1973 syn. sec. WFO 2018

***Dianthus glacialis* subsp. *gelidus* (Schott, Nyman & Kotschy) Tutin in Feddes Repert. Spec. Nov. Regni Veg. 68: 190. 1963.** Sec. Marhold (2011)
≡ *Dianthus gelidus* Schott, Nyman & Kotschy in Schott, Analecta Bot.: 54. 1854 syn. sec. Marhold (2011)

Dianthus glacialis* subsp. *glacialis

***Dianthus glutinosus* Boiss. & Heldr. in Boissier, Diagn. Pl. Orient., ser. 2, 1: 61. 1854.** Sec. Dimopoulos et al. (2013)
= *Dianthus pubescens* d'Urv., Mém. Soc. Linn. Paris 1: 303. 1822 syn. sec. WFO 2018

***Dianthus goekayi* Kaynak, Yılmaz & Daşkın in Ann. Bot. Fenn. 48: 74. 2011.** Sec. Yılmaz et al. (2011)

***Dianthus goerkii* Hartvig & Strid in Bot. Jahrb. Syst. 108: 321. 1987.** Sec. Hamzaoğlu & Koç (2021)
= *Dianthus leucophaeus* var. *patens* Reeve syn. sec. Hamzaoğlu & Koç (2021)

***Dianthus gracilis* Sm., Fl. Graec. Prodr. 1(2): 288. 1809.** Sec. Dimopoulos et al. (2013)

***Dianthus gracilis* subsp. *armerioides* (Griseb.) Tutin in Feddes Repert. Spec. Nov. Regni Veg. 68: 191. 1963.** Sec. Marhold (2011)

≡ *Dianthus gracilis* var. *armerioides* Griseb., Spic. Fl. Rumel. 1: 190. 1843 syn. sec. Marhold (2011)
= *Dianthus suskalovicii* Adamović in Oesterr. Bot. Z. 55: 179. 1905 syn. sec. Marhold (2011)
= *Dianthus callosus* Velen. in Sitzungsber. Königl. Böhm. Ges. Wiss., Math.-Naturwiss. Cl. 8: 5. 1910 ["1911"] syn. sec. Marhold (2011)
= *Dianthus achtarovii* Stoj. & Kitan. in Izv. Bulg. Bot. Druzh. 9: 94. 1943 syn. sec. Marhold (2011) ≡ *Dianthus gracilis* subsp. *achtarovii* (Stoj. & Kitanov) Tutin in Feddes Repert. Spec. Nov. Regni Veg. 68: 191. 1963 syn. sec. Marhold (2011)

***Dianthus gracilis* subsp. *drenowskianus* (Rech.f.) Strid in Willdenowia 13: 281. 1983 ["1984"].** Sec. Marhold (2011)
≡ *Dianthus drenowskianus* Rech.f. in Repert. Spec. Nov. Regni Veg. 31: 158. 1932 syn. sec. Marhold (2011)

***Dianthus gracilis* subsp. *friwaldskyanus* (Boiss.) Tutin in Feddes Repert. Spec. Nov. Regni Veg. 68: 191. 1963.** Sec. Dimopoulos et al. (2013)
≡ *Dianthus friwaldskyanus* Boiss., Diagn. Pl. Orient., ser. 2, 1: 65. 1854 syn. sec. Dimopoulos et al. (2013)

Dianthus gracilis* subsp. *gracilis
= *Dianthus albanicus* Wettst. in Biblioth. Bot. 26: 34. 1892 syn. sec. Dimopoulos et al. (2013)
= *Dianthus athous* Rech.f. in Repert. Spec. Nov. Regni Veg. 31: 159. 1932 syn. sec. Marhold (2011)

***Dianthus gracilis* subsp. *xanthinus* (Davidov) Tutin in Feddes Repert. Spec. Nov. Regni Veg. 68: 191. 1963.** Sec. Dimopoulos et al. (2013)
≡ *Dianthus xanthinus* Davidov in Trav. Soc. Bulg. Sci. Nat. 8: 56. 1915 syn. sec. this publication – *Dianthus xanthianus* Davidov in Trav. Soc. Bulg. Sci. Nat. 8: 56. 1915 syn. sec. this publication [is orthographic variant for *Dianthus xanthinus* Davidov] – *Dianthus gracilis* subsp. *xanthianus* (Davidov) Tutin in Feddes Repert. Spec. Nov. Regni Veg. 68: 191. 1963 syn. sec. this publication [is orthographic variant for *Dianthus gracilis* subsp. *xanthinus* (Davidov) Tutin]

***Dianthus graminifolius* C.Presl, Fl. Sicul. 1: 147. 1826.** Sec. Bacchetta et al. (2010)
≡ *Dianthus arrosti* var. *graminifolius* (C.Presl) Lojac., Fl. Sicul. 1: 164. 1889 syn. sec. Bacchetta et al. (2010) – *Dianthus arrostii* var. *graminifolius* (C.Presl) Lojac., Fl. Sicul. 1: 164. 1889 syn. sec. Bacchetta et al. (2010) [is orthographic variant for *Dianthus arrosti* var. *graminifolius* (C.Presl) Lojac.]

***Dianthus graniticus* Jord., Observ. Pl. Nouv. 7: 13. 1849.** Sec. Marhold (2011)

≡ *Dianthus hirtus* subsp. *graniticus* (Jord.) Rouy & Foucaud in Rouy, Fl. France 3: 177. 1896 syn. sec. Marhold (2011)

***Dianthus gratianopolitanus* Vill., Hist. Pl. Dauphiné 3: 598. 1789.** Sec. Marhold (2011)
= *Dianthus caesius* Sm., Engl. Bot. [1]: t. 62. 1792 syn. sec. Marhold (2011) ≡ *Silene caesia* (Sm.) E.H.L.Krause, Deutschl. Fl. Abbild., ed. 2, 5: 112. 1901, nom. illeg.
= *Dianthus caesius* subsp. *adscendens* Gaudin, Fl. Helv. 3: 158. 1828 syn. sec. Kew WCVP (2019)
= *Dianthus caesius* subsp. *montanus* Gaudin, Fl. Helv. 3: 159. 1828 syn. sec. Kew WCVP (2019)
= *Dianthus caesius* var. *nanus* Gaudin, Fl. Helv. 3: 159. 1828 syn. sec. Kew WCVP (2019)
= *Dianthus flaccidus* Fieber in Flora 17: 633. 1834 syn. sec. WFO 2018

***Dianthus gredensis* Pau ex Caball. in Anales Jard. Bot. Madrid 5: 513. 1945.** Sec. Bernal et al. (1990)
≡ *Dianthus langeanus* subsp. *gredensis* (Pau ex Caball.) Rivas Mart., Fern.Gonz. & Sánchez Mata in Opusc. Bot. Pharm. Complut. 2: 108. 1986 syn. sec. Bernal et al. (1990) ≡ *Dianthus pungens* subsp. *gredensis* (Pau ex Caball.) Crespí, C.P.Fern., A.Castro, Bernardos & Amich in Ann. Bot. Fenn. 44: 253. 2007 syn. sec. this publication

***Dianthus grossheimii* Schischk. in Trudy Bot. Inst. Akad. Nauk S.S.S.R., ser. 1, Fl. Sist. Vyssh. Rast. 2: 278. 1936.** Sec. Kuzmina & Nersesyan (2012)

***Dianthus guessfeldtianus* Muschl., Man. Fl. Egypt 1: 330. 1912.** Sec. Marhold (2011)

***Dianthus guliae* Janka in J. Bot. 12: 338. 1874.** Sec. Peruzzi & Gargano (2006)
≡ *Dianthus liburnicus* var. *guliae* (Janka) Arcang., Comp. Fl. Ital.: 85. 1882 syn. sec. Peruzzi & Gargano (2006) ≡ *Dianthus carthusianorum* var. *guliae* (Janka) Tanfani, Fl. Ital. 9: 254. 1892 syn. sec. Peruzzi & Gargano (2006)

***Dianthus guttatus* M.Bieb., Fl. Taur.-Caucas. 1: 328. 1808.** Sec. Czerepanov (1995)
= *Dianthus pseudogrisebachii* Grecescu, Consp. Fl. Roman.: 100. 1898 syn. sec. WFO 2018
= *Dianthus guttatus* subsp. *mariae* Kleopow in Zhurn. Inst. Bot. Vseukraïns'k. Akad. Nauk 21–22: 244. 1939 syn. sec. WFO 2018 ≡ *Dianthus mariae* (Kleopow) Klokov in Bot. Zhurn. (Kiev) 5: 27. 1948 syn. sec. WFO 2018

***Dianthus guttatus* subsp. *dicaricatus* Prodán, Fl. Republ. Popul. Român. 2: 669. 1953.** Sec. Jalas & Suominen (1988)

Dianthus guttatus* subsp. *guttatus

***Dianthus haematocalyx* Boiss. & Heldr. in Boissier, Diagn. Pl. Orient., ser. 2, 1: 68. 1854.** Sec. Dimopoulos et al. (2013)
= *Dianthus haematocalyx* f. *olympica* Stoj. & Jordanov in God. Sofiisk. Univ. Fiz.-Mat. Fak. 34: 178. 1938 syn. sec. Kew WCVP (2019)

Dianthus haematocalyx* subsp. *haematocalyx

***Dianthus haematocalyx* subsp. *phitosianus* Constantin. in Phyton (Horn) 39(2): 279. 1999.** Sec. Dimopoulos et al. (2013)

***Dianthus haematocalyx* subsp. *pindicola* (Vierh.) Hayek in Repert. Spec. Nov. Regni Veg. Beih. 30(1): 240. 1924.** Sec. Dimopoulos et al. (2013)
≡ *Dianthus pindicola* Vierh. in Verh. K. K. Zool.-Bot. Ges. Wien 47: 31. 1897 syn. sec. Dimopoulos et al. (2013) ≡ *Dianthus haematocalyx* subsp. *pinidicola* (Vierh.) Hayek in Repert. Spec. Nov. Regni Veg. Beih. 30(1): 240. 1924 syn. sec. Dimopoulos et al. (2013)
= *Dianthus pineticola* var. *jacupicensis* Košanin syn. sec. WFO 2018

***Dianthus haematocalyx* subsp. *pruinosus* (Boiss. & Orph.) Hayek in Repert. Spec. Nov. Regni Veg. Beih. 30(1): 240. 1924.** Sec. Dimopoulos et al. (2013)
≡ *Dianthus pruinosus* Boiss. & Orph. in Boissier, Diagn. Pl. Orient. ser. 2, 6: 28. 1859 syn. sec. Dimopoulos et al. (2013)

***Dianthus haematocalyx* subsp. *ventricosus* Maire & Petitm. in Bull. Soc. Sci. Nancy III, 9: 193. 1908.** Sec. Dimopoulos et al. (2013)
≡ *Dianthus ventricosus* Heldr. ex Halácsy, Consp. Fl. Graec. 1: 204. 1900, nom. illeg. syn. sec. Marhold (2011)
= *Dianthus sibthorpii* Vierh. in Verh. K. K. Zool.-Bot. Ges. Wien 47: 33. 1897 syn. sec. Marhold (2011) ≡ *Dianthus haematocalyx* subsp. *sibthorpii* (Vierh.) Hayek in Repert. Spec. Nov. Regni Veg. Beih. 30(1): 240. 1924 syn. sec. Marhold (2011)

***Dianthus hafezii* Assadi in Iranian J. Bot. 3: 23. 1985.** Sec. Rechinger (1988)

***Dianthus halisdemirii* Hamzaoğlu & Koç in KSÜ Tarim Doga Derg. 21: 548. 2018.** Sec. Hamzaoğlu et al. (2018)

***Dianthus hamzaoglui* Koç in Phytotaxa 439(1): 58. 2020.** Sec. Koç (2020)

***Dianthus harrissii* Rech.f. in Plant Syst. Evol. 142: 240. 1983.** Sec. Rechinger (1988)

***Dianthus helenae* Vved. in Bot. Mater. Gerb. Bot. Inst. Uzbekistansk. Fil. Akad. Nauk S.S.S.R. 3: 10. 1941.** Sec. Czerepanov (1995)

***Dianthus ×hellwigii* Borbás ex Čelak. in Sitzungsber. Königl. Böhm. Ges. Wiss., Math.-Naturwiss. Cl. 1878: 20. 1879.** Sec. IPNI
≡ *Dianthus ×hellwigii* Borbás ex Asch. in Oesterr. Bot. Z. 26: 258. 1876;

***Dianthus ×helveticorum* M.Laínz in Anales Jard. Bot. Madrid 42: 549. 1985 ["1986"].** Sec. Bernal et al. (1990)

***Dianthus henteri* Heuff. ex Griseb. & Schenk in Arch. Naturgesch. 18(1): 303. 1852.** Sec. Marhold (2011)

***Dianthus hispidus* (Boiss. & Balansa) Fassou, N.Korotkova, Dimop. & Borsch.** Sec. this publication 150
≡ *Velezia hispida* Boiss. & Balansa in Boissier, Diagn. Pl. Orient., ser. 2, 5: 57. 1856 syn. sec. this publication

***Dianthus hoeltzeri* C.Winkl. in Gartenflora 30: 1. 1881.** Sec. Dequan & Turland (2001)

***Dianthus holopetalus* Turcz. in Bull. Soc. Imp. Naturalistes Moscou 27(2): 369. 1854.** Sec. African Plant Database (version 3.4.0)

***Dianthus humilis* Willd. ex Ledeb., Fl. Ross. 1: 280. 1842.** Sec. Czerepanov (1995)
= *Dianthus hirtus* M.Bieb., Fl. Taur.-Caucas. 1: 326. 1808 syn. sec. WFO 2018
= *Dianthus virgineus* Hablitz ex M.Bieb., Fl. Taur.-Caucas. 1: 326. 1808 syn. sec. WFO 2018
= *Dianthus sterilis* Steven ex Boiss., Fl. Orient. 1: 505. 1867 syn. sec. WFO 2018

***Dianthus hymenolepis* Boiss., Diagn. Pl. Orient., ser. 1, 8: 64. 1849.** Sec. Rechinger (1988)

***Dianthus hypanicus* Andrz., Ischisl. Rast. Podolsk. Gub. 1: 18. 1860.** Sec. Czerepanov (1995)

***Dianthus hyrcanicus* Rech.f. in Plant Syst. Evol. 142: 241. 1983.** Sec. Rechinger (1988)

***Dianthus hyssopifolius* L., Cent. Pl. I: 11. 1755.** Sec. Bernal et al. (1990)
= *Dianthus monspeliacus* L., Syst. Nat., ed. 10 2: 1029. 1759 syn. sec. WFO 2018
= *Dianthus ambiguus* Salisb., Prodr. Stirp. Chap. Allerton: 303. 1796 syn. sec. WFO 2018
= *Dianthus saxatilis* Pers., Syn. Pl. 1: 494. 1805 syn. sec. WFO 2018
= *Dianthus alpestris* Sternb., Deutschl. Fl.: 28. 1809 syn. sec. WFO 2018 ≡ *Dianthus monspessulanus* var. *alpestris* (Sternb.) Arcang., Comp. Fl. Ital.: 87. 1882 syn. sec. Kew WCVP (2019)

= *Dianthus plumosus* DC. ex Spreng., Pl. Min. Cogn. Pug. 2: 64. 1815 syn. sec. WFO 2018 ≡ *Dianthus monspessulanus* var. *plumosus* (DC. ex Spreng.) Gaudin, Fl. Helv. 6: 355. 1830 syn. sec. Kew WCVP (2019)
= *Dianthus suaveolens* Spreng., Novi Provent.: 16. 1818 syn. sec. Bernal et al. (1990) ≡ *Dianthus monspessulanus* var. *suaveolens* (Spreng.) Trevir., Index Seminum (WRO-CL, Wratislaviensi) 1821(App. 3): 1. 1821 syn. sec. Kew WCVP (2019)
= *Dianthus monspessulanus* var. *brevifolius* Ser., Prodr. 1: 365. 1824 syn. sec. Kew WCVP (2019)
= *Dianthus acuminatus* Tausch, Syll. Pl. Nov. 2: 242. 1828 syn. sec. WFO 2018
= *Dianthus controversus* Gaudin, Fl. Helv. 3: 157. 1828 syn. sec. WFO 2018 ≡ *Dianthus seguieri* var. *controversus* (Gaudin) W.D.J.Koch, Syn. Fl. Germ. Helv. 1: 96. 1835 syn. sec. Kew WCVP (2019) ≡ *Dianthus seguieri* subsp. *controversus* (Gaudin) Arcang., Comp. Fl. Ital.: 84. 1882 syn. sec. Kew WCVP (2019)
= *Dianthus sprengelii* G.Don, Gen. Hist. 1: 394. 1831 syn. sec. WFO 2018
= *Dianthus odoratissimus* Vest ex Rchb., Fl. Germ. Excurs.: 807. 1832 syn. sec. WFO 2018
= *Dianthus monspessulanus* var. *alpicola* W.D.J.Koch, Syn. Fl. Germ. Helv. 1: 99. 1835 syn. sec. Kew WCVP (2019)
= *Dianthus condensatus* Kil. in Linnaea 32: 532. 1863 syn. sec. WFO 2018
= *Dianthus oreades* Balb. ex Nyman, Consp. Fl. Eur. 1: 104. 1878 syn. sec. WFO 2018
= *Dianthus eynensis* Sennen in Bol. Soc. Ibér. Ci. Nat. 25: 148. 1926 syn. sec. WFO 2018
= *Dianthus monspessulanus* var. *jacetanus* P.Monts. in Bull. Soc. Échange Pl. Vasc. Eur. Occid. Bassin Médit. 18: 72. 1981 syn. sec. WFO 2018

***Dianthus hyssopifolius* subsp. *gallicus* (Pers.) M.Laínz & Muñoz Garm in Anales Jard. Bot. Madrid 44: 572. 1987.** Sec. Bernal et al. (1990)
≡ *Dianthus gallicus* Pers., Syn. Pl. 1: 495. 1805 syn. sec. Bernal et al. (1990) ≡ *Dianthus monspeliacus* subsp. *gallicus* (Pers.) M.Laínz & Muñoz Garm in Anales Jard. Bot. Madrid 42: 259. 1985 syn. sec. Bernal et al. (1990)

Dianthus hyssopifolius* subsp. *hyssopifolius

***Dianthus ichnusae* Bacch., Brullo, Casti & Giusso in Nordic J. Bot. 28: 146. 2010.** Sec. Bacchetta et al. (2010)

Dianthus ichnusae* subsp. *ichnusae

***Dianthus ichnusae* subsp. *toddei* Bacch., Brullo, Casti & Giusso in Nordic J. Bot. 28: 147. 2010.** Sec. Bacchetta et al. (2010)

***Dianthus illyricus* (Ard.) Fassou, N.Korotkova, Dimop. & Borsch.** Sec. this publication 151

≡ *Saponaria illyrica* Ard., Animadv. Bot. Spec. Alt.: 24. 1764 syn. sec. this publication ≡ *Tunica illyrica* (Ard.) Fisch. & C.A.Mey., Index Sem. Hort. Petrop. 4: 49. 1838 syn. sec. this publication ≡ *Fiedleria illyrica* (Ard.) Rchb., Icon. Fl. Germ. Helv. 6: 42, t. 246. 1844 syn. sec. this publication (2019) ≡ *Petrorhagia illyrica* (Ard.) P.W.Ball & Heywood in Bull. Brit. Mus. (Nat. Hist.), Bot. 3: 133. 1964 syn. sec. this publication

***Dianthus illyricus* subsp. *angustifolius* (Poir.) Fassou, N.Korotkova, Dimop. & Borsch.** Sec. this publication 152

≡ *Silene angustifolia* Poir., Voy. Barbarie 2: 164. 1789 syn. sec. this publication (2019); ≡ *Tunica angustifolia* (Poir.) Briq., Prodr. Fl. Corse 1: 544. 1910 syn. sec. this publication ≡ *Tunica illyrica* subsp. *angustifolia* (Poir.) Maire in Bull. Soc. His. Nat. Afrique N. 30: 265. 1939 syn. sec. this publication

= *Gypsophila compressa* Desf., Fl. Atlant. 1: 343, t. 97. 1798 syn. sec. this publication ≡ *Tunica compressa* (Desf.) Fisch. & C.A.Mey., Index Sem. Hort. Petrop. 4: 50. 1838 syn. sec. this publication ≡ *Dianthella compressa* (Desf.) Pomel, Mat. Fl. Atl.: 9. 1860 syn. sec. this publication (2019)

= *Tunica davaeana* Coss. in Bull. Soc. Bot. France 36: 103. 1889 syn. sec. this publication

= *Tunica scoparia* Pamp. in Arch. Bot. (Forlì) 12: 25. 1936 syn. sec. this publication (2019)

***Dianthus illyricus* subsp. *haynaldianus* (Janka) Fassou, N.Korotkova, Dimop. & Borsch.** Sec. this publication 152

≡ *Gypsophila haynaldiana* Janka in Oesterr. Bot. Z. 20: 316. 1870 syn. sec. this publication (2019) ≡ *Tunica haynaldiana* (Janka) Borbás in Math. Term. Közlem. 12: 165. 1876 syn. sec. this publication (2019) ≡ *Gypsophila haynaldiana* Janka ex Nyman, Consp. Fl. Eur. 1: 100. 1878 syn. sec. IPNI ≡ *Tunica illyrica* var. *haynaldiana* (Janka) Hayek, Prodr. Fl. Penins. Balcan. 1: 222. 1924 syn. sec. this publication ≡ *Tunica illyrica* subsp. *haynaldiana* (Janka) Prodán in Savulescu, F. Roman. P. R. 2: 215. 1953 syn. sec. this publication ≡ *Petrorhagia illyrica* subsp. *haynaldiana* (Janka) P.W.Ball & Heywood in Bull. Brit. Mus. (Nat. Hist.), Bot. 3: 134. 1964 syn. sec. this publication

= *Tunica rhodopea* Velen. in Abh. Böhm. Ges. Wiss. 1894 (29): 4. 1895 syn. sec. Kew WCVP (2019)

Dianthus illyricus* subsp. *illyricus

***Dianthus illyricus* subsp. *taygeteus* (Boiss.) Fassou, N.Korotkova, Dimop. & Borsch.** Sec. this publication 152

≡ *Tunica illyrica* var. *taygetea* Boiss., Fl. Orient. 1: 521. 1867 syn. sec. this publication; ≡ *Tunica taygetea* (Boiss.) P.H.Davis in Notes Roy. Bot. Gard. Edinburgh 22: 165. 1957 syn. sec. this publication (2019) ≡ *Petrorhagia illyrica* subsp. *taygetea* (Boiss.)

P.W.Ball & Heywood in Bull. Brit. Mus. (Nat. Hist.), Bot. 3: 137. 1964 syn. sec. this publication ≡ *Tunica cretica* var. *taygetea* (Boiss.) Halácsy syn. sec. this publication

***Dianthus imereticus* (Rupr.) Schischk. in Byull. Gosud. Muz. Gruzii 5: 123. 1928 ["1930"].** Sec. Kuzmina & Nersesyan (2012)
≡ *Dianthus montanus* f. *imereticus* Rupr., Fl. Caucasi: 173. 1869 syn. sec. Kuzmina & Nersesyan (2012)
= *Dianthus charadzeae* Gagnidze & Gvin. in Zametki Sist. Geogr. Rast. 37: 25. 1981 syn. sec. Kuzmina & Nersesyan (2012)

***Dianthus inamoenus* Schischk., Fl. URSS 6: 897. 1936.** Sec. Kuzmina & Nersesyan (2012)
= *Dianthus lenkoranicus* Kharadze in Zametki Sist. Geogr. Rast. 16: 46. 1951 syn. sec. Kuzmina & Nersesyan (2012)
= *Dianthus pallens* subsp. *inamoenus* Sanda syn. sec. Kuzmina & Nersesyan (2012)

***Dianthus ingoldbyi* Turrill in Bull. Misc. Inform. Kew 1924: 314. 1924.** Sec. Dimopoulos et al. (2013)

***Dianthus insularis* Bacch., Brullo, Casti & Giusso in Nordic J. Bot. 28: 156. 2010.** Sec. Bacchetta et al. (2010)

***Dianthus integer* Vis. in Flora 12(1 Erg.): 11. 1829.** Sec. Dimopoulos et al. (2013)
≡ *Dianthus petraeus* subsp. *integer* (Vis.) Tutin in Feddes Repert. Spec. Nov. Regni Veg. 68: 190. 1963 syn. sec. WFO 2018
= *Dianthus nicolai* Beck & Szyszył., Pl. Cernagor. Lect.: 65. 1888 syn. sec. WFO 2018
= *Dianthus prenjus* Beck in Wiss. Mitt. Bosnien & Herzegovina 11: 488. 1909 syn. sec. WFO 2018

Dianthus integer* subsp. *integer

***Dianthus integer* subsp. *macedonicus* Trinajstić in Suppl. Fl. Anal. Jugosl. 6: 8. 1979.** Sec. Marhold (2011)
– *Dianthus integer* subsp. *macedonicus* Trinajstić in Suppl. Fl. Anal. Jugosl. 5: 737. 1979, nom. inval. syn. sec. this publication

***Dianthus integer* subsp. *minutiflorus* (Halácsy) Bornm. ex Strid, Mount. Fl. Greece 1: 182. 1986.** Sec. Dimopoulos et al. (2013)
≡ *Dianthus minutiflorus* Halácsy, Consp. Fl. Graec. 1: 216. 1900 syn. sec. Marhold (2011) ≡ *Dianthus petraeus* subsp. *minutiflorus* (Halácsy) Greuter & Burdet in Willdenowia 12: 187. 1982 syn. sec. Marhold (2011)
= *Dianthus strictus* var. *minutiflorus* Borbás in Verh. Naturf. Vereins Brünn 34: 85. 1896 syn. sec. WFO 2018

Dianthus integerrimus **Bunge in Mém. Acad. Imp. Sci. St-Pétersbourg, Sér. 6, Sci. Math., Seconde Pt. Sci. Nat. 7: 583. 1858.** Sec. Kuzmina & Nersesyan (2012)
≡ *Dianthus liboschitzianus* var. *integerrimus* (Bunge) Boiss., Fl. Orient. 1: 487. 1867 syn. sec. Kuzmina & Nersesyan (2012) ≡ *Dianthus cretaceus* var. *integerrimus* (Bunge) Grossh., Fl. Cauc. 2: 430. 1930 syn. sec. Kuzmina & Nersesyan (2012)

Dianthus jacobsii **Rech.f. in Plant Syst. Evol. 142: 243. 1983.** Sec. Kuzmina & Nersesyan (2012)

Dianthus jacquemontii **Edgew. & Hook.f., Fl. Brit. India 1: 214. 1874.** Sec. Ghanzafar & Nasir (1986)

Dianthus ×jaczonis **Asch. in Oesterr. Bot. Z. 26: 257. 1876.** Sec. POWO. Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew.

Dianthus japigicus **Bianco & S.Brullo in Braun-Blanquetia 2: 31. 1988.** Sec. Bacchetta et al. (2010)

Dianthus japonicus **Thunb., Syst. Veg. ed. 14: 417. 1784.** Sec. Zoku (1965)
= *Dianthus ellipticus* Turcz. in Bull. Soc. Imp. Naturalistes Moscou 27(2): 369. 1854 syn. sec. Zoku (1965)
= *Dianthus nipponicus* Makino in Bot. Mag. (Tokyo) 17: 58. 1903 syn. sec. Zoku (1965)
= *Dianthus japonicus* f. *albiflorus* J.Ohara ex Nakan. in J. Geobot. 16: 116. 1968 syn. sec. WFO 2018
= *Dianthus japonicus* f. *albiflorus* Honda & Koike in J. Jap. Bot. 46: 75. 1971, nom. illeg. syn. sec. WFO 2018
= *Dianthus japonicus* f. *albiflorus* Konta & S.Matsumoto in Bull. Natl. Sci. Mus., Tokyo, B. 31(1): 23. 2005, nom. illeg. syn. sec. Zoku (1965)

Dianthus jaroslavii **Galushko in Novosti Sist. Vyssh. Rast. 6: 213. 1970.** Sec. Kuzmina & Nersesyan (2012)

Dianthus ×javorkae **Kárpáti in Borbásia 5–6: 87. 1946.** Sec. POWO. Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew.

Dianthus juniperinus **Sm. in Trans. Linn. Soc. London 2: 303. 1794.** Sec. Dimopoulos et al. (2013)

Dianthus juniperinus **subsp.** ***aciphyllus*** **(Sieber ex Ser.) Turland in Bull. Brit. Mus. (Nat. Hist.), Bot. 22: 168. 1992.** Sec. Dimopoulos et al. (2013)
≡ *Dianthus aciphyllus* Sieber ex Ser. in Candolle, Prodr. 1: 358. 1824 syn. sec. WFO 2018

***Dianthus juniperinus* subsp. *bauhinorum* (Greuter) Turland in Bull. Brit. Mus. (Nat. Hist.), Bot. 22: 168. 1992.** Sec. Dimopoulos et al. (2013)
≡ *Dianthus aciphyllus* var. *bauhinorum* Greuter in Candollea 20: 190. 1965 syn. sec. WFO 2018
– *Dianthus arboreus* L., Sp. Pl.: 413. 1753, nom. rej. syn. sec. WFO 2018

***Dianthus juniperinus* subsp. *heldreichii* Greuter in Candollea 20: 187. 1966.** Sec. Dimopoulos et al. (2013)

***Dianthus juniperinus* subsp. *idaeus* Turland in Bull. Brit. Mus. (Nat. Hist.), Bot. 22(2): 168. 1992.** Sec. Dimopoulos et al. (2013)

Dianthus juniperinus* subsp. *juniperinus

***Dianthus juniperinus* subsp. *kavusicus* Turland in Bull. Brit. Mus. (Nat. Hist.), Bot. 22(2): 168. 1992.** Sec. Dimopoulos et al. (2013)

***Dianthus juniperinus* subsp. *pulviniformis* (Greuter) Turland in Bull. Brit. Mus. (Nat. Hist.), Bot. 22: 166. 1992.** Sec. Dimopoulos et al. (2013)
≡ *Dianthus pulviniformis* Greuter in Candollea 20: 189. 1965 syn. sec. WFO 2018

***Dianthus juzeptchukii* M.Kuzmina in Bot. Zhurn. (Moscow & Leningrad) 81: 80. 1996.** Sec. Kuzmina & Nersesyan (2012)

***Dianthus kapinaensis* Markgr. & Lindtner in Glasn. Skopsk. Naucn. Drustva 18(6): 125. 1938.** Sec. Marhold (2011)

***Dianthus karami* (Boiss.) Mouterde in Bull. Soc. Bot. France 104: 511. 1958.** Sec. Marhold (2011)
≡ *Dianthus hypochlorus* var. *karami* Boiss., Fl. Orient. Suppl.: 80. 1888 syn. sec. Marhold (2011)

***Dianthus karataviensis* Pavlov in Sovetsk. Bot. 1934(1): 22. 1934.** Sec. Czerepanov (1995)

***Dianthus kastembeluensis* Freyn & Sint. in Oesterr. Bot. Z. 43: 375. 1893.** Sec. Marhold (2011)

***Dianthus khamiesbergensis* Sond., Fl. Cap. 1: 124. 1860.** Sec. African Plant Database (version 3.4.0)

***Dianthus kirghizicus* Schischk., Fl. URSS 6: 896. 1936.** Sec. Czerepanov (1995)

Dianthus kiusianus **Makino in Bot. Mag. (Tokyo) 26: 178. 1912.** Sec. Zoku (1965)
= *Dianthus hachijoensis* Nakai in Bot. Mag. (Tokyo) 35: 150. 1921 syn. sec. Zoku (1965)

Dianthus klokovii **Knjasev in Bot. Zhurn. (Moscow & Leningrad) 82(11): 80. 1997.** Sec. Knjasev (1997)

Dianthus knappii **(Pant.) Asch. & Kanitz ex Borbás, Mat. Term. Közlem. 13: 196. 1877.** Sec. Marhold (2011)
≡ *Dianthus liburnicus* var. *knappii* Pant. in Oesterr. Bot. Z. 23: 4. 1873 syn. sec. Marhold (2011) ≡ *Dianthus balbisii* subsp. *knappii* (Pant.) Peruzzi & Uzunov in Phytol. Balcan. 14: 48. 2008 syn. sec. Marhold (2011)

Dianthus koreanus **D.C.Son & K.H.Lee in Phytotaxa 303(1): 71. 2017.** Sec. Son et al. (2017)

Dianthus kubanensis **Schischk. in Trudy Bot. Inst. Akad. Nauk S.S.S.R., ser. 1, Fl. Sist. Vyssh. Rast. 3: 184. 1937.** Sec. Kuzmina & Nersesyan (2012)

Dianthus kuschakewiczii **Regel & Schmalh. in Trudy Imp. S.-Peterburgsk. Bot. Sada 5: 244. 1877.** Sec. Dequan & Turland (2001)

Dianthus kusnezowii **Marcow. in Bot. Mater. Gerb. Glavn. Bot. Sada RSFSR 4: 31. 1923.** Sec. Kuzmina & Nersesyan (2012)
= *Dianthus abchasicus* Gvin. in Zametki Sist. Geogr. Rast. 27: 78. 1969 syn. sec. Kuzmina & Nersesyan (2012)

Dianthus lactiflorus **Fenzl in Asie Min., Bot. 1: 215. 1860.** Sec. Marhold (2011)

Dianthus laingsburgensis **S.S.Hooper in Hookers Icon. Pl. 37: 30. 1959.** Sec. African Plant Database (version 3.4.0)

Dianthus lanceolatus **Steven ex Rchb., Pl. Crit. 6: 34. 1828.** Sec. Kuzmina & Nersesyan (2012)

Dianthus langeanus **Willk., Prodr. Fl. Hispan. 3: 690. 1878.** Sec. Bernal et al. (1990)

Dianthus laricifolius **Boiss. & Reut., Diagn. Pl. Nov. Hisp.: 7. 1842.** Sec. Bernal et al. (1990)

Dianthus laricifolius **subsp. *caespitosifolius*** **(Planellas) M.Laínz, Aport. Conocim. Fl. Gallega 6: 6. 1968.** Sec. Bernal et al. (1990)
≡ *Dianthus caespitosifolius* Planellas, Ensayo Fl. Gallega: 118. 1852 syn. sec. Bernal et al. (1990)

= *Dianthus planellae* Willk., Icon. Descr. Pl. Nov. 1: 79. 1854 syn. sec. Bernal et al. (1990)

Dianthus laricifolius* subsp. *laricifolius

***Dianthus laricifolius* subsp. *marizii* (Samp.) Franco in Ann. Bot. Fenn. 23: 91. 1986.** Sec. Bernal et al. (1990)
≡ *Dianthus graniticus* var. *marizii* Samp. in Ann. Sci. Nat. (Oporto) 10: 14. 1906 syn. sec. Bernal et al. (1990) ≡ *Dianthus marizii* (Samp.) Samp. in Bol. Soc. Brot. II, 1: 134. 1922 syn. sec. Bernal et al. (1990) ≡ *Dianthus merinoi* subsp. *marizii* (Samp.) Rivas Mart. & Penas in Itinera Geobot. 15: 700. 2002 syn. sec. WFO 2018 – *Dianthus graniticus* var. *maritzii* Samp. in Ann. Sci. Nat. (Oporto) 10: 14. 1906 syn. sec. Kew WCVP (2019) [is misspelling for *Dianthus graniticus* var. *marizii* Samp.]

***Dianthus laricifolius* subsp. *merinoi* (M.Laínz) M.Laínz in Anales Jard. Bot. Madrid 43: 197. 1986.** Sec. Bernal et al. (1990)
≡ *Dianthus merinoi* M.Laínz, Comun. I. N. I. A., Sér. Recurs. Nat. 2: 3. 1974 syn. sec. Bernal et al. (1990)

***Dianthus legionensis* (Willk.) F.N.Williams in J. Bot. 23: 346. 1885.** Sec. Bernal et al. (1990)
≡ *Dianthus lusitanus* var. *legionensis* Willk., Prodr. Fl. Hispan. 3: 684. 1878 syn. sec. Bernal et al. (1990)
= *Dianthus toletanus* var. *cutandae* Pau in Bol. Soc. Ibér. Ci. Nat. 22: 87. 1923 syn. sec. Bernal et al. (1990) ≡ *Dianthus cutandae* (Pau) Pau in Cavanillesia 1: 63. 1928 syn. sec. Bernal et al. (1990) ≡ *Dianthus scaber* subsp. *cutandae* (Pau) Tutin in Feddes Repert. Spec. Nov. Regni Veg. 68: 190. 1963 syn. sec. Bernal et al. (1990)

***Dianthus leptoloma* Steud. ex A.Rich., Tent. Fl. Abyss. 1: 42. 1847.** Sec. African Plant Database (version 3.4.0)
= *Dianthus abyssinicus* R.Br., Voy. Abyss. App: lxiv. 1814 syn. sec. WFO 2018

***Dianthus leptopetalus* Willd., Enum. Pl.: 468. 1809.** Sec. Kuzmina & Nersesyan (2012)
= *Dianthus pomeridianus* M.Bieb., Fl. Taur.-Caucas. 1: 329. 1808 syn. sec. Kuzmina & Nersesyan (2012)
= *Dianthus pubescens* Fisch., Cat. Jard. Gorenki ed. 2: 59. 1812 syn. sec. WFO 2018
= *Dianthus bicolor* Hornem. in Hort. Bot. Hafn. 1: 407. 1813 syn. sec. WFO 2018

***Dianthus leucophaeus* Sm., Fl. Graec. Prodr. 1(2): 288. 1809.** Sec. Marhold (2011)
= *Dianthus olympicus* Sibth. ex Boiss., Fl. Orient. 1: 487. 1867 syn. sec. Kew WCVP (2019)
= *Dianthus ilgazensis* Czeczott in Acta Soc. Bot. Poloniae 9: 32. 1932 syn. sec. Marhold (2011)

***Dianthus leucophoeniceus* Dörfl. & Hayek in Oesterr. Bot. Z. 70: 13. 1921.** Sec. Dimopoulos et al. (2013)

≡ *Dianthus giganteus* subsp. *leucophoeniceus* (Dörfl. & Hayek) Tutin in Feddes Repert. Spec. Nov. Regni Veg. 68: 191. 1963 syn. sec. Dimopoulos et al. (2013)

***Dianthus libanotis* Labill. in Icon. Pl. Syr. 1: 14. 1791.** Sec. Kuzmina & Nersesyan (2012)

= *Dianthus atomarius* Boiss., Diagn. Pl. Orient., ser. 1, 8: 71. 1849 syn. sec. Kuzmina & Nersesyan (2012)

***Dianthus lindbergii* Riedl in Ann. Naturhist. Mus. Wien 65: 30. 1962.** Sec. Rechinger (1988)

***Dianthus longicalyx* Miq. in J. Bot. Néerl. 1: 127. 1861.** Sec. Dequan & Turland (2001)

= *Dianthus oreadum* Hance in Ann. Sci. Nat., Bot. V, 5: 207. 1866 syn. sec. Dequan & Turland (2001) ≡ *Dianthus superbus* var. *oreadum* (Hance) Pamp. in Nuovo Giorn. Bot. Ital. n.s., 17: 265. 1910 syn. sec. Dequan & Turland (2001)

= *Dianthus superbus* f. *longicalycinus* Maxim. in Trudy Imp. S.-Peterburgsk. Bot. Sada 11: 64. 1890 syn. sec. Dequan & Turland (2001) ≡ *Dianthus superbus* var. *longicalycinus* (Maxim.) F.N.Williams in J. Linn. Soc., Bot. 34: 411. 1899 syn. sec. Dequan & Turland (2001) ≡ *Dianthus superbus* subsp. *longicalycinus* (Maxim.) Kitam. in Acta Phytotax. Geobot. 20: 205. 1962 syn. sec. WFO 2018

= *Dianthus superbus* var. *latifolius* Nakai in Bot. Mag. (Tokyo) 43: 457. 1929 syn. sec. WFO 2018 ≡ *Dianthus superbus* f. *latifolius* (Nakai) Kitag. in J. Jap. Bot. 40: 138. 1965 syn. sec. WFO 2018

= *Dianthus taiwanensis* Masam. in Trans. Nat. Hist. Soc. Taiwan 33: 618. 1943 syn. sec. Dequan & Turland (2001) ≡ *Dianthus superbus* var. *taiwanensis* (Masam.) T.S.Liu & S.S.Ying, Fl. Taiwan 2: 334. 1976 syn. sec. Dequan & Turland (2001)

= *Dianthus superbus* f. *tricolor* Honda in Acta Phytotax. Geobot. 20: 18. 1962 syn. sec. WFO 2018

= *Dianthus superbus* var. *pycnophyllus* Kitag. in J. Jap. Bot. 55: 266. 1980 syn. sec. WFO 2018

***Dianthus longiglumis* Delile in Ann. Sci. Nat., Bot. II, 20: 89. 1843.** Sec. African Plant Database (version 3.4.0)

***Dianthus longivaginatus* Rech.f. in Plant Syst. Evol. 142: 244. 1983.** Sec. Rechinger (1988)

***Dianthus ×lorberi* Kubát & Abtová in Severoceskou Prír. 21: 5. 1988.** Sec. Danihelka et al. (2012)

***Dianthus lucae* Asch. in Oesterr. Bot. Z. 26: 259. 1876**
= *Dianthus* ×*lucae* var. *novakii* Graebn., Syn. Mitteleur. Fl. 5(2): 451. 1922 syn. sec. Kew WCVP (2019) ≡ *Dianthus* ×*novakii* (Graebn.) Novák in Vestn. Král. Ceské Spolecn. Nauk. Tr. Mat.-Prír. 9: 47. 1927 syn. sec. Kew WCVP (2019)

***Dianthus lusitanus* Brot., Fl. Lusit. 2: 177. 1805.** Sec. Bernal et al. (1990)
= *Dianthus bolivaris* Sennen in Butl. Inst. Catalana Hist. Nat. 32: 96. 1932 syn. sec. WFO 2018
= *Dianthus lusitanus* var. *imberbis* Maire in Bull. Soc. His. Nat. Afrique N. 28: 342. 1937 syn. sec. Kew WCVP (2019)

Dianthus lusitanus* subsp. *lusitanus

***Dianthus lusitanus* subsp. *sidi-tualii* (Font Quer) Dobignard in J. Bot. Soc. Bot. France 20: 39. 2002.** Sec. African Plant Database (version 3.4.0)
≡ *Dianthus sidi-tualii* Font Quer in Cavanillesia 7: 149. 1935 syn. sec. African Plant Database (version 3.4.0)
= *Dianthus lusitanus* var. *latifolius* Maire in Bull. Soc. His. Nat. Afrique N. 24: 204. 1933 syn. sec. Kew WCVP (2019)
= *Dianthus lusitanus* var. *tamarutii* Caball., App. Discurs. Univ. Madrid: 2. 1935 syn. sec. Kew WCVP (2019)
= *Dianthus atlanticus* Romo in Bot. J. Linn. Soc. 108: 205. 1992 syn. sec. African Plant Database (version 3.4.0)

***Dianthus lydus* Boiss., Diagn. Pl. Orient. ser. 1 1: 20. 1843.** Sec. Marhold (2011)

***Dianthus macranthoides* Hausskn. ex Bornm. in Beih. Bot. Centralbl. 19(2): 213. 1906.** Sec. Rechinger (1988)

***Dianthus macranthus* Boiss., Diagn. Pl. Orient. ser. 1 1: 23. 1843.** Sec. Rechinger (1988)

***Dianthus macroflorus* Hamzaoğlu in Syst. Bot. 40: 210. 2015.** Sec. Hamzaoğlu et al. (2015)

***Dianthus mainensis* Shaulo & Erst in Feddes Repert. 122: 345. 2011.** Sec. Shaulo & Erst (2011)

***Dianthus marschallii* Schischk. in J. Bot. Gard. Nikita 10(2): 39. 1928.** Sec. Czerepanov (1995)
= *Dianthus bicolor* M.Bieb., Fl. Taur.-Caucas. 1: 329. 1808 syn. sec. Czerepanov (1995)
= *Dianthus pallens* subsp. *marschallii* Sanda syn. sec. Czerepanov (1995)

Dianthus martuniensis **M.Kuzmina in Bot. Zhurn. (Moscow & Leningrad) 81(8): 81. 1996.** Sec. Kuzmina & Nersesyan (2012)

Dianthus masmenaeus **Boiss., Diagn. Pl. Orient., ser. 2, 5: 51. 1856.** Sec. Kuzmina & Nersesyan (2012)
= *Dianthus mutabilis* Boiss. in Ann. Sci. Nat., Bot. IV, 2: 44. 1854 syn. sec. Kuzmina & Nersesyan (2012)
= *Dianthus asperulus* Boiss. & A.Huet in Boissier, Diagn. Pl. Orient., ser. 2, 5: 51. 1856 syn. sec. Kuzmina & Nersesyan (2012)

Dianthus mazanderanicus **Rech.f. in Plant Syst. Evol. 142: 245. 1983.** Sec. Rechinger (1988)

Dianthus ×melandrioides **Pau in Not. Bot. Fl. Espań. 1: 29. 1887.** Sec. Bernal et al. (1990)
= *Dianthus ×carolipaui* M.B.Crespo & Mateo in Anales Jard. Bot. Madrid 47: 506. 1989 ["1990"] syn. sec. POWO. Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew.

Dianthus membranaceus **Borbás in Oesterr. Bot. Z. 26: 125. 1876.** Sec. Kuzmina & Nersesyan (2012)
= *Dianthus rehmannii* Blocki in Kosmos (Lvov) 5: 494. 1880 syn. sec. Kuzmina & Nersesyan (2012)
= *Dianthus pseudobarbatus* Besser ex Blocki in Deutsche Bot. Monatsschr. 3(9): 131. 1885 syn. sec. Kuzmina & Nersesyan (2012)

Dianthus mercurii **Heldr. in Atti Congr. Int. Bot. Firenze 1874: 237. 1876.** Sec. Dimopoulos et al. (2013)

Dianthus micranthus **Boiss. & Heldr. in Boissier, Diagn. Pl. Orient., ser. 1, 8: 69. 1849.** Sec. Marhold (2011)
= *Dianthus haussknechtii* Boiss., Fl. Orient. 1: 489. 1867 syn. sec. Marhold (2011)

Dianthus microlepis **Boiss., Diagn. Pl. Orient. ser. 1 1: 22. 1843.** Sec. Marhold (2011)
= *Dianthus pumilus* Friv. ex Boiss., Diagn. Pl. Orient. ser. 1 1: 22. 1843 syn. sec. WFO 2018
= *Dianthus brachyanthus* Schur, Enum. Pl. Transsilv.: 96. 1866 syn. sec. WFO 2018
= *Dianthus pumilio* Degen & Urum. in Magyar Bot. Lapok 13: 177. 1914 ["1915"] syn. sec. Marhold (2011)
= *Dianthus microlepis* f. *alba* Delip. & Dimitrov in Feddes Repert. 83: 490. 1972 ["1973"] syn. sec. WFO 2018
= *Dianthus microlepis* var. *degenii* Stoj. & Acht. syn. sec. WFO 2018 ≡ *Dianthus microlepis* subsp. *degenii* (Stoj. & Acht.) Peev & Zlatkova in Phytologia Balcan. 1: 38. 1995 syn. sec. WFO 2018

= *Dianthus microlepis* var. *musalae* Velen. syn. sec. WFO 2018 ≡ *Dianthus musalae* (Velen.) Velen. in Sitzungsber. Königl. Böhm. Ges. Wiss., Math.-Naturwiss. Cl. 8: 6. 1910 ["1911"] syn. sec. WFO 2018

***Dianthus micropetalus* Ser., Prodr. 1: 359. 1824.** Sec. African Plant Database (version 3.4.0)

***Dianthus moesiacus* Vis. & Pančić in Mem. Reale Ist. Veneto Sci. 15: 17. 1870.** Sec. Marhold (2011)
≡ *Dianthus carthusianorum* var. *moesiacus* (Vis. & Pančić) F.N.Williams in J. Linn. Soc., Bot. 29: 376. 1893 syn. sec. Kew WCVP (2019)
= *Dianthus burgasensis* Tutin in Feddes Repert. Spec. Nov. Regni Veg. 68: 192. 1963 syn. sec. WFO 2018

***Dianthus moesiacus* subsp. *grancarovii* (Urum.) Stoj. & Acht. in Sborn. Bălg. Akad. Nauk. 29(2): 53. 1935.** Sec. Marhold (2011)
≡ *Dianthus grancarovii* Urum. in Sborn. Bălg. Akad. Nauk. 22(1): 22. 1926 syn. sec. Marhold (2011) ≡ *Dianthus moesiacus* var. *grancarovii* Urum. ex Stoj. & Stef., Fl. Bulg. ed. 2: 368. 1933 syn. sec. this publication

Dianthus moesiacus* subsp. *moesiacus

***Dianthus moesiacus* subsp. *sevlievensis* (Degen & Nejceff) Stoj. & Acht. in Sborn. Bălg. Akad. Nauk. 29(2): 54. 1935.** Sec. Marhold (2011)
≡ *Dianthus vandasii* var. *sevlievensis* Degen & Nejceff in Period. Spis. Bulg. Knizh. Druzh. 69: 74. 1908 syn. sec. Marhold (2011)

***Dianthus moesiacus* subsp. *skobelevii* (Velen.) Stoj. & Acht. in Sborn. Bălg. Akad. Nauk. 29(2): 53. 1935.** Sec. Marhold (2011)
≡ *Dianthus moesiacus* var. *skobelevii* Velen., Fl. Bulg. Suppl.: 45. 1898 syn. sec. Marhold (2011)

***Dianthus monadelphus* Vent., Choix Pl.: t. 39. 1807.** Sec. Dimopoulos et al. (2013)
= *Dianthus ochroleucus* Pers., Syn. Pl. 1: 494. 1805 syn. sec. WFO 2018

***Dianthus monadelphus* subsp. *judaicus* (Boiss.) Greuter & Burdet in Willdenowia 12: 186. 1982.** Sec. Marhold (2011)
≡ *Dianthus judaicus* Boiss., Diagn. Pl. Orient., ser. 1, 8: 66. 1849 syn. sec. Marhold (2011)
= *Dianthus auraniticus* Post in J. Linn. Soc., Bot. 24: 422. 1888 syn. sec. Marhold (2011)

Dianthus monadelphus* subsp. *monadelphus

***Dianthus monadelphus* subsp. *pallens* (Sm.) Greuter & Burdet in Willdenowia 12: 187. 1982.** Sec. Dimopoulos et al. (2013)
≡ *Dianthus pallens* Sm., Fl. Graec. Prodr. 1(2): 286. 1809 syn. sec. WFO 2018
= *Dianthus procumbens* Vent., Choix Pl.: Index. 1808 syn. sec. WFO 2018
= *Dianthus rhodopeus* Velen. in Sitzungsber. Königl. Böhm. Ges. Wiss., Math.-Naturwiss. Cl. 1890(2): 40. 1890 syn. sec. WFO 2018

***Dianthus monspessulanus* L., Amoen. Acad. 4: 1313. 1759.** Sec. Marhold (2011)

***Dianthus monspessulanus* subsp. *marsicus* (Ten.) Novák, Spisy Prir. Fak. Karlovy Univ. 21: 25. 1924.** Sec. Marhold (2011)
≡ *Dianthus marsicus* Ten., Fl. Napol. 4: 61. 1830 syn. sec. Marhold (2011) ≡ *Dianthus monspessulanus* var. *marsicus* (Ten.) Arcang., Comp. Fl. Ital.: 87. 1882 syn. sec. this publication ≡ *Dianthus sternbergii* subsp. *marsicus* (Ten.) Pignatti in Giorn. Bot. Ital. 107: 209. 1973 syn. sec. Marhold (2011) ≡ *Dianthus waldsteinii* subsp. *marsicus* (Ten.) Greuter & Burdet in Willdenowia 12: 188. 1982 syn. sec. Marhold (2011)

Dianthus monspessulanus* subsp. *monspessulanus

***Dianthus mooiensis* F.N.Williams in J. Bot. 27: 199. 1889.** Sec. African Plant Database (version 3.4.0)
≡ *Dianthus moviensis* F.N.Williams in J. Bot. 27: 199. 1889 syn. sec. African Plant Database (version 3.4.0)
= *Dianthus nelsonii* F.N.Williams in J. Bot. 27: 200. 1889 syn. sec. WFO 2018

***Dianthus mooiensis* subsp. *kirkii* (Burtt Davy) S.S.Hooper in Hookers Icon. Pl. 37: 54. 1959.** Sec. African Plant Database (version 3.4.0)
≡ *Dianthus kirkii* Burtt Davy in Bull. Misc. Inform. Kew 1922: 220. 1922 syn. sec. African Plant Database (version 3.4.0) ≡ *Dianthus moviensis* subsp. *kirkii* (Burtt Davy) S.S.Hooper in Hookers Icon. Pl. 37: 54. 1959 syn. sec. this publication

Dianthus mooiensis* subsp. *mooiensis

***Dianthus mooiensis* var. *dentatus* Burtt Davy in Bull. Misc. Inform. Kew 1922: 222. 1922.** Sec. African Plant Database (version 3.4.0)
– *Dianthus moviensis* var. *dentatus* Burtt Davy in Bull. Misc. Inform. Kew 1922: 222. 1922 syn. sec. this publication [is misspelling for *Dianthus mooiensis* var. *dentatus* Burtt Davy]

***Dianthus moravicus* Kovanda in Preslia 54: 241. 1982.** Sec. Marhold (2011)
≡ *Dianthus gratianopolitanus* subsp. *moravicus* (Kovanda) Holub in Folia Geobot. Phytotax. 18: 205. 1983 syn. sec. this publication

***Dianthus morisianus* Vals. in Boll. Soc. Sarda Sci. Nat. 24: 333. 1985.** Sec. Bacchetta et al. (2010)
≡ *Dianthus siculus* subsp. *morisianus* (Vals.) Arrigoni in Parlatorea 7: 20. 2005 syn. sec. Bacchetta et al. (2010)

***Dianthus mossanus* Bacch. & Brullo in Portugaliae Act. Biol., Sér. B, Sist. 19: 296. 2000.** Sec. Bacchetta & Brullo (2000)
≡ *Dianthus siculus* subsp. *mossanus* (Bacch. & Brullo) Arrigoni in Parlatorea 7: 20. 2005 syn. sec. WFO 2018

***Dianthus muglensis* Hamzaoğlu & Koç in Phytotaxa 491(4): 291. 2021.** Sec. Hamzaoğlu & Koç (2021)
≡ *Dianthus elegans* var. *gramineus* R.M.Burton in Karaca Arbor. Mag. 3: 184. 1997 syn. sec. Hamzaoğlu & Koç (2021)

***Dianthus multiaffinis* Pau in Bol. Real Soc. Esp. Hist. Nat. 21: 142. 1921.** Sec. Bernal et al. (1990)
≡ *Dianthus pungens* var. *multiaffinis* (Pau) O.Bolòs & Vigo in Butl. Inst. Catalana Hist. Nat., Secc. Bot. 38(1): 88. 1974 syn. sec. Bernal et al. (1990) ≡ *Dianthus costae* subsp. *multiaffinis* (Pau) M.Laínz in Anales Jard. Bot. Madrid 43: 473. 1986 ["1987"] syn. sec. Bernal et al. (1990) ≡ *Dianthus multiceps* subsp. *multiaffinis* (Pau) Rivas Mart. in Itinera Geobot. 15: 700. 2002 syn. sec. WFO 2018

***Dianthus multiceps* Costa ex Willk. in Linnaea 30: 88. 1859.** Sec. WFO 2018
≡ *Dianthus cintranus* subsp. *multiceps* (Costa ex Willk.) Tutin in Feddes Repert. Spec. Nov. Regni Veg. 68: 190. 1963 syn. sec. Marhold (2011) ≡ *Dianthus pungens* subsp. *multiceps* (Costa ex Willk.) O.Bolòs & Vigo in Butl. Inst. Catalana Hist. Nat., Secc. Bot. 38(1): 88. 1974 syn. sec. Marhold (2011) ≡ *Dianthus pungens* var. *multiceps* (Costa ex Willk.) O.Bolòs & Vigo in Butl. Inst. Catalana Hist. Nat., Secc. Bot. 38: 88. 1974 syn. sec. Kew WCVP (2019)
= *Dianthus* ×*bergadensis* Sennen in Bol. Soc. Ibér. Ci. Nat. 25: 144. 1926 syn. sec. Bernal et al. (1990)
= *Dianthus* ×*corberae* Sennen in Bol. Soc. Ibér. Ci. Nat. 25: 143. 1926 ["1927"] syn. sec. Bernal et al. (1990)
= *Dianthus* ×*notabilis* Sennen in Bol. Soc. Ibér. Ci. Nat. 25: 207. 1926 ["1927"] syn. sec. Bernal et al. (1990)

Dianthus multiceps* subsp. *multiceps

***Dianthus multiceps* subsp. *praepyrenaicus* M.Bernal in Anales Jard. Bot. Madrid 44: 569. 1987.** Sec. Bernal et al. (1990)

***Dianthus multiflorus* Deniz & Aykurt in Phytokeys 63: 3. 2016.** Sec. Deniz et al. (2016)

Dianthus multisquamatus **F.N.Williams in J. Bot. 23: 344. 1885.** Sec. Williams (1893)

Dianthus multisquameus **Bondarenko & R.M.Vinogr., Opred. Rast. Sred. Azii 2: 327. 1971.** Sec. Czerepanov (1995)

Dianthus muschianus **Kotschy ex Boiss., Fl. Orient. 1: 510. 1867.** Sec. Marhold (2011)

Dianthus myrtinervius **Griseb., Spic. Fl. Rumel. 1: 194. 1843.** Sec. Dimopoulos et al. (2013)

= *Dianthus myrtinervius* subsp. *zupancicii* Micevski & E.Mayer in Razpr. Slov. Akad. Znan. Umetn., Razr. Nar. Vede 43: 411. 2002 syn. sec. WFO 2018

Dianthus myrtinervius **subsp.** ***caespitosus*** **Strid & Papan. in Ann. Mus. Goulandris 4: 219. 1978.** Sec. Dimopoulos et al. (2013)

= *Dianthus myrtinervius* var. *oxylepis* Boiss., Fl. Orient. 1: 509. 1867 syn. sec. this publication ≡ *Dianthus oxylepis* (Boiss.) Kümmerle & Jáv., Balkán-Kutat Tud. Eredm. 3: 233. 1926 syn. sec. Dimopoulos et al. (2013)

= *Dianthus kajmaktzalanicus* Mitsevski in Fragm. Balcan. Mus. Macedon. Sci. Nat. 10(4): 29. 1977 syn. sec. Dimopoulos et al. (2013)

Dianthus myrtinervius **subsp.** ***myrtinervius***

Dianthus namaensis **Schinz in Bull. Herb. Boiss. 5(App. 3): 84. 1897.** Sec. African Plant Database (version 3.4.0)

= *Dianthus pearsonii* Burtt Davy in Bull. Misc. Inform. Kew 1922: 215. 1922 syn. sec. African Plant Database (version 3.4.0)

Dianthus namaensis **var.** ***dinteri*** **(Schinz) S.S.Hooper.** Sec. African Plant Database (version 3.4.0)

= *Dianthus dinteri* Schinz in Vierteljahrsschr. Naturf. Ges. Zürich 74: 110. 1929 syn. sec. African Plant Database (version 3.4.0)

Dianthus namaensis **var.** ***junceus*** **(Burtt Davy) S.S.Hooper in Hookers Icon. Pl. 37: 30. 1959.** Sec. African Plant Database (version 3.4.0)

≡ *Dianthus junceus* Burtt Davy in Bull. Misc. Inform. Kew 1922: 219. 1922 syn. sec. African Plant Database (version 3.4.0)

Dianthus namaensis **var.** ***namaensis***

Dianthus nangarharicus **Rech.f. in Plant Syst. Evol. 142: 240. 1983.** Sec. Rechinger (1988)

***Dianthus nanshanicus* Chang Y.Yang & L.X.Dong in Bull. Bot. Res., Harbin 28: 644. 2008.** Sec. Dequan & Turland (2001)

***Dianthus nardiformis* Janka in Oesterr. Bot. Z. 23: 195. 1873.** Sec. Marhold (2011)

***Dianthus nihatii* Güner, Fl. Turkey 11: 318. 2000 ["2001"].** Sec. Güner (2000)

***Dianthus nitidus* Waldst. & Kit. in Descr. Icon. Pl. Hung. 2: 209. 1805.** Sec. Marhold (2011)

***Dianthus noeanus* Boiss., Diagn. Pl. Orient., ser. 2, 5: 52. 1856.** Sec. Dimopoulos et al. (2013)
≡ *Dianthus strictus* subsp. *noeanus* (Boiss.) Stoj. & Acht. in Sborn. Bulg. Akad. Nauk. 29: 81. 1935 syn. sec. Dimopoulos et al. (2013) ≡ *Dianthus petraeus* subsp. *noeanus* (Boiss.) Tutin in Feddes Repert. Spec. Nov. Regni Veg. 68: 190. 1963 syn. sec. WFO 2018

***Dianthus nudiflorus* Griff., Not. Pl. Asiat. 4: 466. 1854.** Sec. Madhani et al. (2018)
= *Velezia rigida* L., Sp. Pl.: 332. 1753 syn. sec. Kew WCVP (2019)
= *Velezia rigida* var. *glabrata* Regel in Izv. Imp. Obshch. Lyubit. Estestv. Moskovsk. Univ. 34(2): 13. 1882 syn. sec. POWO. Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew.
= *Velezia rigida* var. *sessiliflora* F.N.Williams in J. Bot. 37: 28. 1899 syn. sec. Kew WCVP (2019)

***Dianthus oliastrae* Bacch., Brullo, Casti & Giusso in Nordic J. Bot. 28: 171. 2010.** Sec. Bacchetta et al. (2010)

***Dianthus orientalis* Adams in Beitr. Naturk. 1: 54. 1805.** Sec. Kuzmina & Nersesyan (2012)
= *Dianthus fimbriatus* M.Bieb., Fl. Taur.-Caucas. 1: 332. 1808 syn. sec. Kuzmina & Nersesyan (2012)
= *Dianthus pogonopetalus* Boiss. & Kotschy in Boissier, Diagn. Pl. Orient. ser. 2, 6: 29. 1859 syn. sec. Kuzmina & Nersesyan (2012)

***Dianthus orientalis* subsp. *aphanoneurus* Rech.f. in Plant Syst. Evol. 151: 290. 1986.** Sec. Kuzmina & Nersesyan (2012)
≡ *Dianthus aphanoneurus* (Rech.f.) M.Kuzmina in Bot. Zhurn. (Moscow & Leningrad) 81: 82. 1996 syn. sec. Kuzmina & Nersesyan (2012)

***Dianthus orientalis* subsp. *gilanicus* Rech.f. in Pl. Syst. Evol. 151(3–4): 289. 1986.** Sec. Rechinger (1988)

***Dianthus orientalis* subsp. *gorganicus* Rech.f. in Pl. Syst. Evol. 151(3–4): 291. 1986.** Sec. Rechinger (1988)

***Dianthus orientalis* subsp. *ketzkhovelii* (Makaschv.) Nersesian, Konspekt Fl. Kavkaza 3(2): 194. 2012.** Sec. Kuzmina & Nersesyan (2012)
≡ *Dianthus ketzkhovelii* Makaschv. in Soobshch. Akad. Nauk Gruzinsk. S.S.R. 8(7): 447. 1947 syn. sec. Kuzmina & Nersesyan (2012)

***Dianthus orientalis* subsp. *macropetalus* (Boiss.) Rech.f. in Plant Syst. Evol. 151: 289. 1986.** Sec. Kuzmina & Nersesyan (2012)
≡ *Dianthus fimbriatus* var. *macropetalus* Boiss., Fl. Orient. Suppl.: 77. 1888 syn. sec. Kuzmina & Nersesyan (2012)

***Dianthus orientalis* subsp. *nassireddinii* (Stapf) Rech.f. in Plant Syst. Evol. 151: 292. 1986.** Sec. Kuzmina & Nersesyan (2012)
≡ *Dianthus nassireddinii* Stapf in Denkschr. Kaiserl. Akad. Wiss., Wien. Math.-Naturwiss. Kl. 51: 279. 1886 syn. sec. WFO 2018
= *Dianthus dumulosus* Boiss. & A.Huet in Boissier, Diagn. Pl. Orient., ser. 2, 5: 53. 1856 syn. sec. Kuzmina & Nersesyan (2012)
= *Dianthus fimbriatus* var. *brachyodontus* Boiss. & A.Huet in Boissier, Diagn. Pl. Orient., ser. 2, 5: 53. 1856 syn. sec. Kuzmina & Nersesyan (2012) ≡ *Dianthus brachyodontus* (Boiss. & A.Huet) Grossh., Fl. Cauc., ed. 2, 3: 294. 1945 syn. sec. Kuzmina & Nersesyan (2012)

***Dianthus orientalis* subsp. *obtusisquameus* (Boiss.) Rech.f. in Plant Syst. Evol. 151: 291. 1986.** Sec. Kuzmina & Nersesyan (2012)
≡ *Dianthus fimbriatus* var. *obtusisquameus* Boiss., Fl. Orient. 1: 495. 1867 syn. sec. Kuzmina & Nersesyan (2012)

Dianthus orientalis* subsp. *orientalis

***Dianthus orientalis* subsp. *scoparius* (Fenzl ex Boiss.) Bornm. in Beih. Bot. Centralbl. 28(2): 134. 1911.** Sec. Rechinger (1988)
≡ *Dianthus scoparius* Fenzl ex Boiss., Fl. Orient. 1: 494. 1867 syn. sec. Kuzmina & Nersesyan (2012)
= *Dianthus fallax* Rech.f. & Esfand. in Bot. Jahrb. Syst. 75: 362. 1951 syn. sec. Rechinger (1988)

***Dianthus orientalis* subsp. *stenocalyx* (Boiss.) Rech.f. in Plant Syst. Evol. 151: 292. 1986.** Sec. Rechinger (1988)
≡ *Dianthus fimbriatus* var. *stenocalyx* Boiss., Fl. Orient. 1: 495. 1867 syn. sec. Rechinger (1988)
= *Dianthus macronyx* Fenzl ex Boiss., Fl. Orient. 1: 495. 1867 syn. sec. Rechinger (1988)

= *Dianthus pulverulentus* Stapf in Denkschr. Kaiserl. Akad. Wiss., Wien. Math.-Naturwiss. Kl. 51: 279. 1886 syn. sec. Rechinger (1988)

***Dianthus oschtenicus* Galushko in Novosti Sist. Vyssh. Rast. 2: 118. 1965.** Sec. Kuzmina & Nersesyan (2012)

***Dianthus pachygonus* (Fisch. & C.A.Mey.) Fassou, N.Korotkova, Nersesian & Borsch.** Sec. this publication 167
≡ *Tunica pachygona* Fisch. & C.A.Mey., Index Sem. Hort. Bot. Petropol. 4: 50. 1838 syn. sec. this publication;
= *Saponaria cretica* L., Sp. Pl., ed. 2 1: 584. 1762 syn. sec. this publication ≡ *Tunica cretica* (L.) Fisch. & C.A.Mey., Index Sem. Hort. Bot. Petropol. 4: 49. 1837 syn. sec. Kew WCVP (2019) ≡ *Petrorhagia cretica* (L.) P.W.Ball & Heywood in Bull. Brit. Mus. (Bot.) 3(4): 142. 1964 ≡ *Fiedleria cretica* (L.) Ovcz., Fl. Tadzhiksk. S.S.R. 3: 608. 1968 syn. sec. this publication

***Dianthus paghmanicus* Rech.f. in Bot. Jahrb. Syst. 75: 362. 1951.** Sec. Rechinger (1988)

***Dianthus palinensis* S.S.Ying, Col. Ill. Fl. Taiwan 2: 693. 1987.** Sec. Dequan & Turland (2001)

***Dianthus pallidiflorus* Ser., Prodr. 1: 358. 1824.** Sec. Marhold (2011)
≡ *Dianthus campestris* subsp. *pallidiflorus* (Ser.) Schmalh., Fl. Sredn. Yuzhn. Rossii 1: 447. 1895 syn. sec. Marhold (2011)
= *Dianthus paniculatus* Gueldenst., Reis. Russland 1: 68. 1787 syn. sec. WFO 2018
= *Dianthus pallens* M.Bieb., Fl. Taur.-Caucas. 1: 325. 1808 syn. sec. WFO 2018
= *Dianthus saxatilis* Pall. ex M.Bieb., Fl. Taur.-Caucas. 1: 329. 1808 syn. sec. WFO 2018
= *Dianthus emarginatus* Ser., Prodr. 1: 359. 1824 syn. sec. WFO 2018
= *Dianthus parviflorus* Willd. ex Ledeb., Fl. Ross. 1: 279. 1842 syn. sec. WFO 2018
= *Dianthus aridus* Griseb. ex Janka in Oesterr. Bot. Z. 23: 196. 1873 syn. sec. Marhold (2011)
= *Dianthus maeoticus* Klokov in Sc. Mag. Biol. 1927: 13. 1927 syn. sec. Marhold (2011)

***Dianthus pamiralaicus* Lincz. in Novosti Sist. Vyssh. Rast. 1: 76. 1964.** Sec. Czerepanov (1995)

***Dianthus pancicii* Velen. in Sitzungsber. Königl. Böhm. Ges. Wiss., Math.-Naturwiss. Cl. 1886(Extr.): 9. 1886.** Sec. Marhold (2011)
≡ *Dianthus stenopetalus* var. *pancicii* (Velen.) F.N.Williams in J. Linn. Soc., Bot. 29: 389. 1893 syn. sec. this publication ≡ *Dianthus cruentus* var. *pancicii* (Velen.) Stoj. & Acht., Krit. Stud. Nelk. Bulg.: 56. 1935 syn. sec. this publication ≡ *Dianthus cruentus* subsp. *pancicii* (Velen.) Stoj. & Stef., Fl. Bulg., ed. 3: 405. 1948 syn. sec. Marhold (2011)

= *Dianthus tristis* Velen. in Sitzungsber. Königl. Böhm. Ges. Wiss., Math.-Naturwiss. Cl. 1890(2): 41. 1890 syn. sec. Marhold (2011)

***Dianthus ×paradoxus* Rouy & Foucaud, Fl. France 3: 187. 1896.** Sec. WFO 2018

***Dianthus patentisquameus* Bondarenko & R.M.Vinogr., Opred. Rast. Sred. Azii 2: 327. 1971.** Sec. Czerepanov (1995)

***Dianthus pavlovii* Lazkov in Bot. Zhurn. (Moscow & Leningrad) 87(12): 113. 2002.** Sec. Lazkov (2006)
– *Dianthus attenuatus* Pavlov, Fl. Kazakhst. 3: 426. 1960, nom. inval. syn. sec. Lazkov (2002)

***Dianthus pavonius* Tausch in Flora 22: 145. 1839.** Sec. Marhold (2011)
= *Dianthus neglectus* Loisel. in J. Bot. (Paris) 2: 321. 1809 syn. sec. Marhold (2011) ≡ *Cylichnanthus neglectus* (Loisel.) Dulac, Fl. Hautes-Pyrénées: 262. 1867

***Dianthus pelviformis* Heuff. in Flora 36: 625. 1853.** Sec. Marhold (2011)
= *Dianthus bulgaricus* Velen., Fl. Bulg.: 78. 1891 syn. sec. Marhold (2011)
= *Dianthus zernyi* Hayek in Repert. Spec. Nov. Regni Veg. Beih. 30(1): 237. 1924 syn. sec. Marhold (2011)

***Dianthus pendulus* Boiss. & Blanche in Boissier, Diagn. Pl. Orient. ser. 2, 6: 28. 1859.** Sec. Rechinger (1988)

***Dianthus persicus* Hausskn. in Mitt. Geogr. Ges. (Thüringen) Jena 9: 16. 1891.** Sec. Rechinger (1988)

***Dianthus petraeus* Waldst. & Kit. in Descr. Icon. Pl. Hung. 3: 246. 1807.** Sec. Dimopoulos et al. (2013)
= *Dianthus bohemicus* Mayer ex Tausch in Flora 13: 246. 1830 syn. sec. WFO 2018
= *Dianthus bebius* Vis. ex Rchb. in Icon. Fl. Germ. Helv. 6: 47. 1844 syn. sec. WFO 2018
= *Dianthus integripetalus* Schur, Enum. Pl. Transsilv.: 98. 1866 syn. sec. WFO 2018
= *Dianthus pseudocaesius* Schur, Enum. Pl. Transsilv.: 98. 1866 syn. sec. WFO 2018
= *Dianthus liliodorus* Pančić, Fl. Serbiae: 176. 1874 syn. sec. Marhold (2011) ≡ *Dianthus petraeus* f. *liliodorus* (Pančić) Hayek in Repert. Spec. Nov. Regni Veg. Beih. 30(1): 252. 1924 syn. sec. Kew WCVP (2019)
= *Dianthus kitaibelii* Janka ex Beck in Ann. K. K. Naturhist. Hofmus. 2: 192. 1889 syn. sec. WFO 2018
= *Dianthus skorpilii* Velen. in Sitzungsber. Königl. Böhm. Ges. Wiss., Math.-Naturwiss. Cl. 1890(2): 40. 1890 syn. sec. WFO 2018

***Dianthus petraeus* subsp. *orbelicus* (Velen.) Greuter & Burdet in Willdenowia 12: 187. 1982.** Sec. Dimopoulos et al. (2013)
≡ *Dianthus strictus* subsp. *orbelicus* Velen., Fl. Bulg. Suppl. 1: 40. 1898 syn. sec. Marhold (2011)
= *Dianthus strictus* Sm., Fl. Graec. Prodr. 1(2): 288. 1809 syn. sec. Marhold (2011)
= *Dianthus simonkaianus* Péterfi in Magyar Bot. Lapok 15: 14. 1916 syn. sec. Marhold (2011) ≡ *Dianthus petraeus* subsp. *simonkaianus* (Péterfi) Tutin in Feddes Repert. Spec. Nov. Regni Veg. 68: 190. 1963 syn. sec. Marhold (2011)
= *Dianthus suendermannii* Bornm. in Repert. Spec. Nov. Regni Veg. 17: 40. 1921 syn. sec. WFO 2018
= *Dianthus stefanoffii* Eig in J. Bot. 75: 191. 1937 syn. sec. Dimopoulos et al. (2013) ≡ *Dianthus petraeus* subsp. *stefanoffii* (Eig) Greuter & Burdet in Willdenowia 12: 187. 1982 syn. sec. Dimopoulos et al. (2013)

Dianthus petraeus* subsp. *petraeus

***Dianthus pinifolius* Sm., Fl. Graec. Prodr. 1(2): 284. 1809.** Sec. Marhold (2011)
= *Dianthus brevifolius* Friv. in Flora 18: 334. 1835 syn. sec. WFO 2018 ≡ *Dianthus pinifolius* subsp. *brevifolius* (Friv.) Stoj. & Stef., Fl. Bulg., ed. 3: 406. 1948 syn. sec. Marhold (2011)
= *Dianthus rumelicus* Velen., Fl. Bulg.: 78. 1891 syn. sec. Marhold (2011) ≡ *Dianthus pinifolius* subsp. *rumelicus* (Velen.) Stoj. & Acht., Sborn. Bălg. Akad. Nauk. 29(2): 66. 1935 syn. sec. Marhold (2011)
= *Dianthus pinifolius* subsp. *smithii* Wettst. in Biblioth. Bot. 26: 33. 1892 syn. sec. Marhold (2011)
= *Dianthus serresianus* Halácsy & Charrel in Oesterr. Bot. Z. 42: 271. 1892 syn. sec. Marhold (2011)
= *Dianthus smithii* Wettst. in Biblioth. Bot. 26: 33. 1892 syn. sec. this publication
= *Dianthus rhodopeus* Davidov in Trav. Soc. Bulg. Sci. Nat. 8: 55. 1915, nom. illeg. syn. sec. Kew WCVP (2019)
= *Dianthus serresianus* Hayek in Denkschr. Kaiserl. Akad. Wiss., Wien. Math.-Naturwiss. Kl. 94: 140. 1917 syn. sec. Marhold (2011)
= *Dianthus serulis* Kulcz. in Rozpr. Wydz. Mat.-Przyr Polsk Akad. Umiejetn., Dzial A/B, Nauki Mat-Fiz. Biol. 59: 361. 1923 syn. sec. Marhold (2011) ≡ *Dianthus pinifolius* subsp. *serulis* (Kulcz.) Trinajstić in Suppl. Fl. Anal. Jugosl. 6: 9. 1979 syn. sec. Marhold (2011) – *Dianthus pinifolius* subsp. *serulis* (Kulcz.) Trinajstić in Suppl. Fl. Anal. Jugosl. 5: 753. 1979, nom. inval. syn. sec. this publication

***Dianthus pinifolius* subsp. *lilacinus* (Boiss. & Heldr.) Wettst. in Biblioth. Bot. 26: 33. 1892.** Sec. Marhold (2011)
≡ *Dianthus lilacinus* Boiss. & Heldr. in Boissier, Diagn. Pl. Orient., ser. 2, 1: 63. 1854 syn. sec. Marhold (2011)

Dianthus pinifolius* subsp. *pinifolius

***Dianthus pinifolius* subsp. *serbicus* Wettst. in Biblioth. Bot. 26: 34. 1892.** Sec. Marhold (2011)

≡ *Dianthus serbicus* (Wettst.) Hayek in Kaiserl. Akad. Wiss. Wien, Math.-Naturwiss. Kl., Denkschr. 94: 141. 1918 syn. sec. this publication

***Dianthus pinifolius* subsp. *tenuicaulis* (Turrill) Strid, Fl. Hellenica 1: 368. 1997.** Sec. Marhold (2011)

≡ *Dianthus tenuicaulis* Turrill in Bull. Misc. Inform. Kew 1929: 224. 1929 syn. sec. Marhold (2011)

***Dianthus plumarius* L., Sp. Pl.: 411. 1753.** Sec. Marhold (2011)

≡ *Tunica plumaria* (L.) Scop., Fl. Carniol., ed. 2, 1: 300. 1771 syn. sec. POWO. Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew.; ≡ *Caryophyllus plumarius* (L.) Moench, Methodus: 59. 1794 syn. sec. POWO. Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew. ≡ *Cylichnanthus plumarius* (L.) Dulac, Fl. Hautes-Pyrénées: 262. 1867 syn. sec. POWO. Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew. ≡ *Silene plumaria* (L.) E.H.L.Krause, Deutschl. Fl. Abbild., ed. 2, 5: 114. 1901 syn. sec. Kew WCVP (2019);

= *Dianthus hortensis* Schrad. ex Willd., Enum. Pl.: 469. 1809 syn. sec. WFO 2018 ≡ *Dianthus plumarius* var. *hortensis* (Schrad. ex Willd.) Trevir., Index Seminum (WROCL, Wratislaviensi) 1818: 3. 1818 syn. sec. Kew WCVP (2019)

= *Dianthus portensis* Libosch. ex Ser., Prodr. 1: 363. 1824 syn. sec. WFO 2018 ≡ *Dianthus plumarius* var. *portensis* Ser., Prodr. 1: 363. 1824 syn. sec. Kew WCVP (2019)

= *Dianthus plumarius* var. *blandus* Rchb., Fl. Germ. Excurs.: 807. 1832 syn. sec. Marhold (2011) ≡ *Dianthus blandus* (Rchb.) Hayek, Fl. Steiermark 1: 320. 1908 syn. sec. Marhold (2011)

= *Dianthus odoratus* Vest ex Steud., Nomencl. Bot., ed. 2, 1: 500. 1840 syn. sec. WFO 2018

= *Plumaria vulgaris* Opiz, Seznam: 75. 1852 syn. sec. POWO. Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew.

= *Dianthus plumarius* var. *parviflorus* Kauffm., Index Seminum (MHA, Mosquensis) 1868: 9. 1868 syn. sec. Kew WCVP (2019)

= *Dianthus hoppei* Port. ex Hayek, Fl. Steiermark 1: 320. 1908 syn. sec. Marhold (2011)

= *Dianthus neilreichii* Hayek syn. sec. Marhold (2011)

= *Dianthus dubius* Hornem. ex DC., Cat. Pl. Horti Monsp.: 103. 1813, nom. illeg. syn. sec. Marhold (2011) – *Dianthus dubius* Hornem. in Hort. Bot. Hafn. 1: 408. 1813 syn. sec. WFO 2018 [is later isonym of *Dianthus dubius* Hornem. ex DC.]

Dianthus plumarius* subsp. *plumarius

***Dianthus plumarius* subsp. *regis-stephani* (Rapaics) Baksay in Bot. Közlem. 57: 215. 1970.** Sec. Marhold (2011)
≡ *Dianthus regis-stephani* Rapaics syn. sec. WFO 2018 ≡ *Dianthus hungaricus* subsp. *regis-stephani* (Rapaics) Holub in Folia Geobot. Phytotax. 9: 273. 1974 syn. sec. WFO 2018

***Dianthus plumbeus* Schischk. in Izv. Tomsk. Gosud. Univ. 81: 451. 1928.** Sec. Marhold (2011)

***Dianthus polylepis* Bien. ex Boiss., Fl. Orient. 1: 497. 1867.** Sec. Rechinger (1988)

***Dianthus polylepis* subsp. *binaludensis* (Rech.f.) Vaezi & Behrooz. in Pl. Syst. Evol. 299: 1430. 2013.** Sec. Farsi et al. (2013)
≡ *Dianthus binaludensis* Rech.f. in Plant Syst. Evol. 142: 242. 1983 syn. sec. Farsi et al. (2013)

Dianthus polylepis* subsp. *polylepis

***Dianthus polymorphus* M.Bieb., Fl. Taur.-Caucas. 1: 324. 1808.** Sec. Kuzmina & Nersesyan (2012)
= *Dianthus dichotomus* Pall., Reise Südl. Statthaltersch. Russ. Reich. 2: 335. 1801 syn. sec. WFO 2018
= *Dianthus diutinus* Kit. ex Schult., Oestr. Fl. ed. 2, 1: 655. 1814 syn. sec. WFO 2018
≡ *Dianthus polymorphus* var. *diutinus* (Kit.) Ser., Prodr. 1: 356. 1824 syn. sec. this publication
= *Dianthus atratus* Beaupré ex Ser., Prodr. 1: 356. 1824 syn. sec. WFO 2018
= *Dianthus ponticus* Wahlenb., Isis (Oken) 21: 985. 1828 syn. sec. WFO 2018
= *Dianthus glomeratus* Pall. ex Ledeb., Fl. Ross. 1: 276. 1842 syn. sec. WFO 2018
= *Dianthus intermedius* Willd. ex Ledeb., Fl. Ross. 1: 276. 1842 syn. sec. WFO 2018
= *Dianthus autumnalis* Kit. in Linnaea 32: 530. 1863 syn. sec. WFO 2018
= *Dianthus sabuli* Kit. in Linnaea 32: 530. 1863 syn. sec. WFO 2018
= *Dianthus platyodon* Klokov in Bot. Zhurn. (Kiev) 5: 27. 1948 syn. sec. WFO 2018
= *Dianthus polymorphus* var. *platyodon* Sanda syn. sec. WFO 2018

***Dianthus praecox* Willd. ex Spreng., Syst. Veg., ed. 16, 2: 381. 1825.** Sec. Marhold (2011)
≡ *Dianthus plumarius* subsp. *praecox* (Willd. ex Spreng.) Domin syn. sec. Marhold (2011)
= *Dianthus hungaricus* Pers., Syn. Pl. 1: 494. 1805 syn. sec. WFO 2018

***Dianthus praecox* subsp. *lumnitzeri* (Wiesb.) Kmeť ová, Biol. Práce Slov. Akad. Vied. 5: 63. 1985.** Sec. Marhold (2011)

≡ *Dianthus lumnitzeri* Wiesb. in Bot. Centralbl. 26: 85. 1886 syn. sec. Marhold (2011)

≡ *Dianthus hungaricus* subsp. *lumnitzeri* (Wiesb.) Holub in Folia Geobot. Phytotax. 9: 272. 1974 syn. sec. WFO 2018 ≡ *Dianthus plumarius* subsp. *lumnitzeri* (Wiesb.) Domin syn. sec. Marhold (2011)

= *Dianthus plumarius* f. *palaviensis* Novák syn. sec. WFO 2018 ≡ *Dianthus lumnitzeri* subsp. *palaviensis* (Novák) Dostál in Folia Mus. Rerum Nat. Bohemiae Occid., Bot. 21: 5. 1984 syn. sec. WFO 2018

Dianthus praecox* subsp. *praecox

***Dianthus praecox* subsp. *pseudopraecox* (Novák) Kmeť ová, Biol. Práce Slov. Akad. Vied. 5: 69. 1985.** Sec. Marhold (2011)

≡ *Dianthus plumarius* f. *pseudopraecox* Novák syn. sec. Marhold (2011) ≡ *Dianthus lumnitzeri* subsp. *pseudopraecox* (Novák) Dostál in Folia Mus. Rerum Nat. Bohemiae Occid., Bot. 21: 4. 1984 syn. sec. Marhold (2011)

***Dianthus pratensis* M.Bieb., Fl. Taur.-Caucas. 3: 300. 1819.** Sec. Marhold (2011)

≡ *Dianthus seguieri* lusus *pratensis* (M.Bieb.) Regel in Bull. Soc. Imp. Naturalistes Moscou 34(2): 526. 1862 syn. sec. Kew WCVP (2019)

= *Dianthus chloroleucus* Fisch. in Hort. Bot. Hafn. Suppl: 137. 1819 syn. sec. WFO 2018

= *Dianthus seguieri* lusus *angustifolius* Regel in Bull. Soc. Imp. Naturalistes Moscou 34(2): 526. 1862 syn. sec. Kew WCVP (2019)

= *Dianthus seguieri* lusus *humilis* Regel in Bull. Soc. Imp. Naturalistes Moscou 34(2): 526. 1862 syn. sec. Kew WCVP (2019)

Dianthus pratensis* subsp. *pratensis

***Dianthus pratensis* subsp. *racovitzae* (Prodán) Tutin in Feddes Repert. Spec. Nov. Regni Veg. 68: 189. 1963.** Sec. Marhold (2011)

≡ *Dianthus racovitzae* Prodán, Bul. Soc. St. Cluj 10(2): 162. 1948 syn. sec. Marhold (2011)

***Dianthus pseudarmeria* M.Bieb., Fl. Taur.-Caucas. 1: 323. 1808.** Sec. Kuzmina & Nersesyan (2012)

***Dianthus pseudobarbatus* Besser ex Ledeb.** Sec. Czerepanov (1995)

= *Dianthus trifasciculatus* subsp. *euponticus* Kleopow syn. sec. Czerepanov (1995)

***Dianthus pseudocrinitus* Behrooz. & Joharchi in Phytotaxa 156: 69. 2014.** Sec. Vaezi et al. (2014)

***Dianthus pseudorigidus* (Hub.-Mor.) Fassou, N.Korotkova, Dimop. & Borsch.** Sec. this publication 173
≡ *Velezia pseudorigida* Hub.-Mor. in Bauhinia 2: 195. 1963 syn. sec. this publication

***Dianthus pungens* L., Mant. Pl. 2: 240. 1771.** Sec. Bernal et al. (1990)
= *Dianthus purpureus* Poir., Encycl. 4: 523. 1798 syn. sec. WFO 2018
= *Dianthus serratus* Lapeyr., Hist. Pl. Pyrénées: 241. 1813 syn. sec. Marhold (2011) ≡ *Dianthus asper* var. *serratus* (Lapeyr.) Ser., Prodr. 1: 357. 1824 syn. sec. Kew WCVP (2019)
= *Dianthus insignitus* Timb.-Lagr. in Bull. Soc. Bot. France 11: 143. 1864 syn. sec. WFO 2018

***Dianthus pungens* subsp. *brachyanthus* (Boiss.) B.Fern.Casas, G.López & M.Laínz in Anales Jard. Bot. Madrid 44: 180. 1987.** Sec. Bernal et al. (1990)
≡ *Dianthus brachyanthus* Boiss., Fl. Orient. 1: 701. 1867 syn. sec. Bernal et al. (1990) ≡ *Dianthus subacaulis* subsp. *brachyanthus* (Boiss.) P.Fourn., Quatre Fl. France: 331. 1936 syn. sec. Bernal et al. (1990) ≡ *Dianthus strictus* var. *brachyanthus* (Boiss.) Boiss. syn. sec. this publication
= *Dianthus attenuatus* Xatard ex Walp., Repert. Bot. Syst. 1: 267. 1842 syn. sec. WFO 2018
= *Dianthus pungens* J.Gay ex Boiss., Fl. Orient. 1: 85. 1867 syn. sec. WFO 2018
= *Dianthus brachyanthus* var. *maroccanus* Pau & Font Quer, Iter Marocc. 1927: 197. 1928 syn. sec. WFO 2018 ≡ *Dianthus subacaulis* var. *maroccanus* (Pau & Font Quer) Maire, Fl. Afrique N. 10: 314. 1963 syn. sec. Kew WCVP (2019)
= *Dianthus brachyanthus* subsp. *cantabricus* Font Quer in Collect. Bot. (Barcelona) 3: 355. 1953 syn. sec. Marhold (2011) ≡ *Dianthus subacaulis* subsp. *cantabricus* (Font Quer) Laínz in Bol. Inst. Estud. Adsturianos, Supl. Ci. 15: 12. 1970 syn. sec. Marhold (2011)
= *Dianthus brachyanthus* var. *nivalis* Willk. syn. sec. WFO 2018 ≡ *Dianthus subacaulis* subsp. *nivalis* (Willk.) Malag., Subesp. Variac. Geogr.: 6. 1973 syn. sec. WFO 2018

***Dianthus pungens* subsp. *hispanicus* (Asso) O.Bolòs & Vigo in Butl. Inst. Catalana Hist. Nat., Secc. Bot. 38(1): 188. 1974.** Sec. Bernal et al. (1990)
≡ *Dianthus hispanicus* Asso, Syn. Stirp. Aragon.: 53. 1779 syn. sec. Bernal et al. (1990) ≡ *Dianthus pungens* var. *hispanicus* (Asso) Ser., Prodr. 1: 360. 1824 syn. sec. this publication
= *Dianthus brachyanthus* subsp. *tarraconensis* (Costa) Rivas Mart. ex M.B.Crespo & Mateo in Flora Montiber. 45: 90. 2010 syn. sec. Bernal et al. (1990) ≡ *Dianthus brachyanthus* var. *tarraconensis* Costa in Anales Soc. Esp. Hist. Nat. 3: 183. 1874 syn. sec. Bernal et al. (1990) ≡ *Dianthus pungens* subsp. *tarraconensis* (Costa) O.Bolòs & Vigo in Butl. Inst. Catalana Hist. Nat., Secc. Bot. 38(1): 88. 1974 syn. sec. Bernal et al. (1990) ≡ *Dianthus hispanicus* subsp. *tarraconensis* (Costa) Molero in Folia Bot. Misc. 3: 12. 1982 syn. sec. Bernal et al. (1990)

Dianthus pungens* subsp. *pungens

***Dianthus pungens* subsp. *ruscinonensis* (Boiss.) M.Bernal, Laínz & Muñoz Garm. in Anales Jard. Bot. Madrid 44: 571. 1987.** Sec. Bernal et al. (1990)

≡ *Dianthus brachyanthus* var. *ruscinonensis* Boiss., Fl. Orient. 1: 86. 1867 syn. sec. Bernal et al. (1990) ≡ *Dianthus ruscinonensis* (Boiss.) Sennen in Trab. Mus. Ci. Nat., Ser. Bot., 15: 48. 1931 syn. sec. Bernal et al. (1990) ≡ *Dianthus subacaulis* subsp. *ruscinonensis* (Boiss.) G.Bosc & Kerguélen in Lejeunia 120: 80. 1987 syn. sec. Bernal et al. (1990)

***Dianthus purpureimaculatus* Podlech in Mitt. Bot. Staatssamml. München 16: 544. 1980.** Sec. Rechinger (1988)

***Dianthus pygmaeus* Hayata in Icon. Pl. Formosan. 3: 34. 1913.** Sec. Dequan & Turland (2001)

= *Dianthus pygmaeus* var. *albiflorus* S.S.Ying in Quart. J. Chin. Forest. 8(4): 120. 1975 syn. sec. Dequan & Turland (2001) ≡ *Dianthus pygmaeus* f. *albiflorus* (S.S.Ying) S.S.Ying, Fl. Taiwan ed. 2, 2: 356. 1996 syn. sec. Dequan & Turland (2001)

***Dianthus pyrenaicus* Pourr., Mém. Acad. Sci. Toulouse 3: 318. 1788.** Sec. Marhold (2011)

= *Dianthus cognobilis* (Timb.-Lagr.) Timb.-Lagr. in Bull. Soc. Bot. France 11: 143. 1864 syn. sec. WFO 2018 ≡ *Dianthus requienii* var. *cognobilis* Timb.-Lagr. syn. sec. WFO 2018 ≡ *Dianthus pungens* subsp. *cognobilis* (Timb.-Lagr.) O.Bolòs & Vigo in Butl. Inst. Catalana Hist. Nat., Secc. Bot. 38(1): 88. 1974 syn. sec. WFO 2018

= *Dianthus maritimus* (Rouy) P.Fourn., Quatre Fl. France: 332. 1936, nom. illeg. syn. sec. Marhold (2011) ≡ *Dianthus pyrenaicus* subsp. *maritimus* (Rouy) Kerguélen, Coll. Patrim. Nat. 8: 13. 1993 syn. sec. WFO 2018

= *Dianthus pungens* subsp. *fontqueri* O.Bolòs & Vigo in Butl. Inst. Catalana Hist. Nat., Secc. Bot. 38(1): 88. 1974 syn. sec. WFO 2018 ≡ *Dianthus hispanicus* subsp. *fontqueri* (O.Bolòs & Vigo) A.Barber, M.B.Crespo & Mateo, Contr. Coneix. Fl. Fitogeogr. Lit. Comarca Marina Alta: 77. 1999 syn. sec. WFO 2018

***Dianthus pyrenaicus* subsp. *attenuatus* (Sm.) M.Bernal, Laínz & Muñoz Garm. in Anales Jard. Bot. Madrid 45: 364. 1988.** Sec. Bernal et al. (1990)

≡ *Dianthus attenuatus* Sm. in Trans. Linn. Soc. London 2: 301. 1794 syn. sec. WFO 2018

= *Dianthus longiflorus* Poir., Encycl. 4: 522. 1798 syn. sec. POWO. Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew.

= *Dianthus attenuatus* var. *catalaunicus* Willk. & Costa syn. sec. WFO 2018 ≡ *Dianthus catalaunicus* (Willk. & Costa) Pourr. ex Willk. & Lange, Prodr. Fl. Hispan. 3: 684. 1878 syn. sec. WFO 2018 ≡ *Dianthus pyrenaicus* subsp. *catalaunicus* (Willk. & Costa) Tutin in Feddes Repert. Spec. Nov. Regni Veg. 68: 190. 1963 syn. sec. WFO 2018

Dianthus pyrenaicus* subsp. *pyrenaicus

***Dianthus quadridentatus* (Sm.) Fassou, N.Korotkova, Dimop. & Borsch.** Sec. this publication 175
≡ *Velezia quadridentata* Sm. in Sibthorp & Smith, Fl. Graec. Prodr. 1: 283. 1809 syn. sec. this publication
= *Velezia clavata* d'Urv. in Mém. Soc. Linn. Paris 1: 284. 1822 syn. sec. Kew WCVP (2019)

***Dianthus raddeanus* Vierh. in Sitzungsber. Kaiserl. Akad. Wiss., Math.-Naturwiss. Cl., Abt. 1, 57(1): 1145. 1898.** Sec. Kuzmina & Nersesyan (2012)
= *Dianthus trautvetteri* Woronow in Izv. Kavkazsk. Muz. 7: 346. 1913 syn. sec. Kuzmina & Nersesyan (2012)

***Dianthus ramosissimus* Pall. ex Poir., Encycl. Suppl. 4: 130. 1816.** Sec. Dequan & Turland (2001)

***Dianthus recognitus* Schischk. in Trudy Bot. Inst. Akad. Nauk S.S.S.R., ser. 1, Fl. Sist. Vyssh. Rast. 3: 187. 1937.** Sec. Czerepanov (1995)

***Dianthus recticaulis* Ledeb., Fl. Ross. 1(2): 287. 1842.** Sec. Mosyakin & Fedoronchuk (2018)

***Dianthus repens* Willd., Sp. Pl. 2: 681. 1799.** Sec. Dequan & Turland (2001)
≡ *Dianthus alpinus* var. *repens* (Willd.) Regel in Bull. Soc. Imp. Naturalistes Moscou 34(2): 531. 1862 syn. sec. Kew WCVP (2019) ≡ *Dianthus alpinus* subsp. *repens* (Willd.) Kozhevn. in Novosti Sist. Vyssh. Rast. 18: 238. 1981 syn. sec. Czerepanov (1995) ≡ *Dianthus chinensis* subsp. *repens* (Willd.) Vorosch., Florist. Issl. Razn. Rayonakh SSSR: 167. 1985 syn. sec. WFO 2018 ≡ *Dianthus repens* var. *repens* syn. sec. WFO 2018
= *Dianthus repens* var. *scabripilosus* Y.Z.Zhao in Acta Sci. Nat. Univ. Intramongol. 20: 110. 1989 syn. sec. Dequan & Turland (2001)

Dianthus repens* subsp. *repens

***Dianthus repens* subsp. *schistosus* Kuvaev, Fl. Subarkt. Gor Evraz.: 144. 2006.** Sec. Kuvaev (2006)

***Dianthus rigidus* M.Bieb., Fl. Taur.-Caucas. 1: 325. 1808.** Sec. Czerepanov (1995)
≡ *Tunica rigida* (M.Bieb.) Raf., Fl. Tellur. 2: 54. 1837 syn. sec. POWO. Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew.

***Dianthus robustus* Boiss. & Kotschy ex Boiss., Fl. Orient. 1: 492. 1867.** Sec. Marhold (2011)
= *Dianthus superbiens* Kotschy ex Boiss., Fl. Orient. 1: 492. 1867 syn. sec. WFO 2018

***Dianthus rogowiczii* Kleopow in Izv. Kievsk. Bot. Sada 12–13: 160. 1931.** Sec. Czerepanov (1995)

***Dianthus roseoluteus* Velen. in Oesterr. Bot. Z. 36: 226. 1886.** Sec. Marhold (2011)
≡ *Dianthus campestris* subsp. *roseoluteus* (Velen.) Stoj. & Acht., Sborn. Blghar. Akad. Nauk 29(2): 16. 1935 syn. sec. Marhold (2011)
= *Dianthus purpureoluteus* Velen., Fl. Bulg.: 73. 1891 syn. sec. Marhold (2011)

***Dianthus rudbaricus* Assadi in Iranian J. Bot. 3: 38. 1985.** Sec. Rechinger (1988)

***Dianthus rupicola* Biv., Sicul. Pl. 1: 31. 1806.** Sec. Bernal et al. (1990)
= *Dianthus bisignanii* Ten., Cat. Piante Barra: 13. 1805 syn. sec. Bernal et al. (1990)
= *Dianthus suffruticosus* Willd., Enum. Pl.: 466. 1809 syn. sec. WFO 2018
= *Dianthus involucratus* Poir., Encycl. Suppl. 4: 132. 1816 syn. sec. WFO 2018
= *Dianthus arborescens* Hoffmanns., Verz. Pfl.-Kult.: 56. 1824 syn. sec. WFO 2018
= *Dianthus bertolonii* J.Woods, Tourists Fl.: 45. 1850 syn. sec. Kew WCVP (2019) ≡ *Dianthus rupicola* var. *bertolonii* (J.Woods) Arcang., Comp. Fl. Ital.: 85. 1882 syn. sec. Kew WCVP (2019)
= *Dianthus hermaeensis* Coss., Ill. Fl. Atlant. 1: 129. 1890 syn. sec. Bernal et al. (1990) ≡ *Dianthus rupicola* var. *hermaeensis* (Coss.) F.N.Williams in J. Linn. Soc., Bot. 29: 363. 1893 syn. sec. Kew WCVP (2019) ≡ *Dianthus rupicola* subsp. *hermaeensis* (Coss.) O.Bolòs & Vigo in Butl. Inst. Catalana Hist. Nat., Secc. Bot. 38(1): 187. 1974 syn. sec. Bernal et al. (1990)

***Dianthus rupicola* subsp. *aeolicus* (Lojac.) Brullo & Miniss. in Inform. Bot. Ital. 33: 539. 2001 ["2002"].** Sec. Iamonico (2013)
≡ *Dianthus aeolicus* Lojac., Fl. Sicul. 1(1): 163. 1888 syn. sec. Iamonico (2013)

***Dianthus rupicola* subsp. *bocchoriana* L.Llorens & Gradaille in Candollea 46: 389. 1991.** Sec. New taxa described to the Flora Iberica region after publication of the respective volume. Published at http://www.floraiberica.es/eng/miscelania/nuevos_taxones.php

***Dianthus rupicola* subsp. *lopadusanus* Brullo & Miniss. in Inform. Bot. Ital. 33: 541. 2002 ["2001"].** Sec. Iamonico (2013)

Dianthus rupicola* subsp. *rupicola

***Dianthus ruprechtii* Schischk. ex Grossh., Fl. Kavkaza 2: 432. 1930.** Sec. Kuzmina & Nersesyan (2012)
= *Dianthus carthusianorum* var. *caucasicus* Rupr., Fl. Caucasi: 174. 1869 syn. sec. Kuzmina & Nersesyan (2012)

***Dianthus sachalinensis* Barkalov & Prob., Fl. Ross. Dalnego Vostoka: 444. 2006.** Sec. Barkalov & Probatova (2006)

***Dianthus saetabensis* Rouy in Bull. Soc. Bot. France 29: 44. 1882.** Sec. Mateo Sanz & Crespo (2008)

***Dianthus saetabensis* subsp. *contestanus* (M.B.Crespo & Mateo) M.B.Crespo & Mateo in Flora Montiber. 40: 65. 2008.** Sec. Mateo Sanz & Crespo (2008)
≡ *Dianthus hispanicus* subsp. *contestanus* M.B.Crespo & Mateo in Flora Montiber. 20: 8. 2002 syn. sec. Mateo Sanz & Crespo (2008)

Dianthus saetabensis* subsp. *saetabensis

***Dianthus sahandicus* Assadi in Iranian J. Bot. 3: 45. 1985.** Sec. Rechinger (1988)

***Dianthus sajanensis* (Baikov) Czepinoga, Konspekt Fl. Irkutsk. Obl.: 116. 2008.** Sec. Chepinoga et al. (2008)
≡ *Dianthus superbus* subsp. *sajanensis* Baikov in Bot. Zhurn. (Moscow & Leningrad) 77(9): 80. 1992 syn. sec. Chepinoga et al. (2008)

***Dianthus sancarii* Hamzaoğlu & Koç in Biol. Diversity Conservation 11(1): 31. 2018.** Sec. Hamzaoğlu & Koç (2018)

***Dianthus sardous* Bacch., Brullo, Casti & Giusso in Feddes Repert. 116: 271. 2005.** Sec. Bacchetta et al. (2010)

***Dianthus ×saxatilis* F.W.Schmidt in Neuere Abh. Königl. Böhm. Ges. Wiss. 1: 28. 1790.** Sec. WFO 2018

***Dianthus scardicus* Wettst. in Biblioth. Bot. 26: 31. 1891.** Sec. Marhold (2011)
= *Dianthus scardicus* var. *incisus* Micevski in Prilozi Oddel. Biol. Med. Nauki Makedonska Akad. Nauk. Umet. 8: 44. 1987 ["1990"] syn. sec. WFO 2018
= *Dianthus nitidus* subsp. *lakusicii* Wraber in Biol. Vestn. 36: 97. 1988 syn. sec. WFO 2018

***Dianthus schemachensis* Schischk. in Trudy Geobot. Obsl. Pastb. S.S.R. Azerbaidzhn, Ser. A., Zimn. Pabstb. 7: 90. 1931.** Sec. Kuzmina & Nersesyan (2012)

***Dianthus seguieri* Vill., Hist. Pl. Dauphiné 1: 330. 1786.** Sec. Bernal et al. (1990)
≡ *Silene seguieri* (Vill.) E.H.L.Krause, Deutschl. Fl. Abbild., ed. 2, 5: 109. 1901 syn. sec. Kew WCVP (2019)
= *Dianthus asper* Willd., Enum. Pl.: 466. 1809 syn. sec. WFO 2018 ≡ *Dianthus seguieri* var. *asper* (Willd.) W.D.J.Koch, Syn. Fl. Germ. Helv. 1: 96. 1835 syn. sec. Kew WCVP (2019)

= *Dianthus asper* var. *angustifolius* Ser., Prodr. 1: 357. 1824 syn. sec. Kew WCVP (2019)
= *Dianthus seguieri* f. *longibracteatus* Regel, Index Seminum (St. Petersburg, Petropolitanus) 1863: 34. 1863 syn. sec. Kew WCVP (2019)
= *Dianthus seguieri* var. *viscidus* Regel, Index Seminum (St. Petersburg, Petropolitanus) 1863: 40. 1863 syn. sec. Kew WCVP (2019)
= *Cylichnanthus ciliatus* Dulac, Fl. Hautes-Pyrénées: 261. 1867 syn. sec. POWO. Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew.
= *Dianthus sylvaticus* var. *pseudocollinus* P.Fourn., Quatre Fl. France: 330. 1936 syn. sec. Kew WCVP (2019) ≡ *Dianthus seguieri* subsp. *pseudocollinus* (P.Fourn.) Jauzein, Biocosme Mésogéen 27: 114. 2010 syn. sec. Kew WCVP (2019)
= *Dianthus seguieri* var. *subaggregatus* Albov syn. sec. IPNI ≡ *Dianthus subaggregatus* (Albov) Schischk. ex Kem.-Nath. in Vestn. Tiflissk. Bot. Sada, n.s., 5: 12. 1931 syn. sec. POWO. Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew.

***Dianthus seguieri* subsp. *glaber* Čelak., Prodr. F. Böhmen 3: 507. 1875.** Sec. Marhold (2011)

***Dianthus seguieri* subsp. *requienii* (Godr.) M.Bernal, Laínz & Muñoz Garm. in Anales Jard. Bot. Madrid 44: 569. 1987.** Sec. Bernal et al. (1990)
≡ *Dianthus requienii* Godr., Fl. France 1: 234. 1847 syn. sec. Bernal et al. (1990) ≡ *Dianthus furcatus* subsp. *requienii* (Godr.) Kerguélen in Lejeunia 120: 80. 1987 syn. sec. Bernal et al. (1990)
= *Cylichnanthus unibiflorus* Dulac, Fl. Hautes-Pyrénées: 261. 1867 syn. sec. POWO. Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew.
= *Dianthus arragonensis* Timb.-Lagr. ex Nyman, Consp. Fl. Eur. 1: 105. 1878 syn. sec. WFO 2018
= *Dianthus gerundensis* Sennen & Pau in Bol. Soc. Aragonesa Ci. Nat. 4: 309. 1905 syn. sec. WFO 2018 ≡ *Dianthus seguieri* var. *gerundensis* (Sennen & Pau) O.Bolòs & Vigo in Butl. Inst. Catalana Hist. Nat., Secc. Bot. 38(1): 88. 1974 syn. sec. WFO 2018
= *Dianthus gautieri* Sennen in Bull. Acad. Int. Geogr. Bot. 21: 107. 1911 syn. sec. Bernal et al. (1990) ≡ *Dianthus seguieri* subsp. *gautieri* (Sennen) Tutin in Feddes Repert. Spec. Nov. Regni Veg. 68: 189. 1963 syn. sec. Bernal et al. (1990) ≡ *Dianthus seguieri* var. *gautieri* (Sennen) O.Bolòs & Vigo in Butl. Inst. Catalana Hist. Nat., Secc. Bot. 38: 88. 1974 syn. sec. this publication
= *Dianthus cadevallii* Sennen & Pau in Bull. Acad. Int. Geogr. Bot. 24: 237. 1914 syn. sec. Bernal et al. (1990) ≡ *Dianthus seguieri* subsp. *cadevallii* (Sennen & Pau) O.Bolòs & Vigo in Butl. Inst. Catalana Hist. Nat., Secc. Bot. 38(1): 88. 1974 syn. sec. Bernal et al. (1990)
= *Dianthus ×paui* Sennen in Bull. Acad. Int. Geogr. Bot. 24: 236. 1914 syn. sec. Bernal et al. (1990)
= *Dianthus queraltii* Sennen in Bol. Soc. Ibér. Ci. Nat. 25: 210. 1926 ["1927"] syn. sec. WFO 2018 ≡ *Dianthus seguieri* var. *queraltii* (Sennen) O.Bolòs & Vigo in Butl. Inst. Catalana Hist. Nat., Secc. Bot. 38(1): 88. 1974 syn. sec. WFO 2018

Dianthus seguieri* subsp. *seguieri

***Dianthus seidlitzii* Boiss., Fl. Orient. 1: 506. 1867.** Sec. Rechinger (1988)
= *Dianthus pusillus* Freyn & Sint. in Bull. Herb. Boiss. 3: 75. 1895 syn. sec. Rechinger (1988)

***Dianthus semenovii* (Regel & Herder) Vierh. in Sitzungsber. Kaiserl. Akad. Wiss., Math.-Naturwiss. Cl., Abt. 1, 107: 1147. 1898.** Sec. Dequan & Turland (2001)
≡ *Dianthus alpinus* var. *semenovii* Regel & Herder in Bull. Soc. Imp. Naturalistes Moscou 39(1): 531. 1866 syn. sec. Dequan & Turland (2001)

***Dianthus seravschanicus* Schischk., Fl. URSS 6: 898. 1936.** Sec. Czerepanov (1995)

***Dianthus serotinus* Waldst. & Kit. in Descr. Icon. Pl. Hung. 2: 188. 1804.** Sec. Czerepanov (1995)

***Dianthus serpentinus* Hamzaoğlu in Nordic J. Bot. 33: 59. 2014.** Sec. Hamzaoğlu et al. (2015)

***Dianthus serratifolius* Sm., Fl. Graec. Prodr. 1(2): 287. 1809.** Sec. Dimopoulos et al. (2013)
= *Dianthus nazaraeus* E.D.Clarke, Trav. Var. Eur. 2: 420. 1812 syn. sec. WFO 2018

***Dianthus serratifolius* subsp. *abbreviatus* (Heldr. ex Halácsy) Strid, Mount. Fl. Greece 1: 179. 1986.** Sec. Dimopoulos et al. (2013)
≡ *Dianthus serratifolius* var. *abbreviatus* Heldr. ex Halácsy syn. sec. Dimopoulos et al. (2013)

Dianthus serratifolius* subsp. *serratifolius

***Dianthus serrulatus* Desf., Fl. Atlant. 1: 346. 1798.** Sec. Marhold (2011)
= *Dianthus serrulatus* var. *strictus* Maire in Bull. Soc. His. Nat. Afrique N. 23: 169. 1932 syn. sec. Kew WCVP (2019)
= *Dianthus serrulatus* var. *subsimplex* F.N.Williams ex Maire in Bull. Soc. His. Nat. Afrique N. 23: 169. 1932 syn. sec. Kew WCVP (2019)
= *Dianthus taygeteus* Quézel & Contandr. in Taxon 16: 239. 1967 syn. sec. Marhold (2011)

***Dianthus serrulatus* subsp. *cyrenaicus* (Pamp.) Maire, Fl. Afr. Nord 10: 303. 1963.** Sec. Marhold (2011)
≡ *Dianthus serrulatus* var. *cyrenaicus* Pamp. in Arch. Bot. (Forlì) 12: 24. 1936 syn. sec. Marhold (2011)

***Dianthus serrulatus* subsp. *macranthus* Maire.** Sec. Marhold (2011)
= *Dianthus serrulatus* var. *broteri* Batt., Fl. Algérie Tunisie: 61. 1905 syn. sec. Kew WCVP (2019)
= *Dianthus mesanidum* Litard. & Maire, Mém. Soc. Sci. Nat. Maroc 6: 7. 1924 syn. sec. Marhold (2011) ≡ *Dianthus serrulatus* var. *mesanidum* (Litard. & Maire) Maire, Fl. Afrique N. 10: 303. 1963 syn. sec. Kew WCVP (2019)

Dianthus serrulatus* subsp. *serrulatus

***Dianthus sessiliflorus* Boiss., Fl. Orient. Suppl.: 78. 1888.** Sec. Marhold (2011)

***Dianthus setisquameus* Hausskn. & Bornm. in Mitt. Geogr. Ges. (Thüringen) Jena 9: 15. 1891.** Sec. Marhold (2011)

***Dianthus shinanensis* (Yatabe) Makino in Bot. Mag. (Tokyo) 17: 58. 1903.** Sec. Zoku (1965)
≡ *Dianthus barbatus* var. *shinanensis* Yatabe in Bot. Mag. (Tokyo) 6: 132. 1892 syn. sec. Zoku (1965)
= *Dianthus takenakae* Honda in Bot. Mag. (Tokyo) 44: 670. 1930 syn. sec. Zoku (1965)
= *Dianthus shinanensis* f. *alpinus* Hid.Takah. ex T.Shimizu, Fl. Nagano Pref.: 1505. 1997 syn. sec. WFO 2018

***Dianthus siculus* C.Presl, Delic. Prag.: 59. 1822.** Sec. Bacchetta et al. (2010)
≡ *Dianthus caryophyllus* subsp. *siculus* (C.Presl) Arcang., Comp. Fl. Ital. ed. 2: 306. 1894 syn. sec. Bacchetta et al. (2010) ≡ *Dianthus caryophyllus* var. *siculus* (C.Presl) Fiori, Fl. Italia 1: 379. 1898 syn. sec. Bacchetta et al. (2010) ≡ *Dianthus sylvestris* subsp. *siculus* (C.Presl) Tutin in Feddes Repert. Spec. Nov. Regni Veg. 68: 190. 1963 syn. sec. Bacchetta et al. (2010)
= *Dianthus kremeri* Boiss. & Reut., Pugill. Pl. Afr. Bor. Hispan.: 21. 1852 syn. sec. African Plant Database (version 3.4.0)
= *Dianthus siculus* var. *lanceolatus* Pau in Trab. Mus. Ci. Nat., Ser. Bot., 11: 22. 1917 syn. sec. African Plant Database (version 3.4.0) ≡ *Dianthus caryophyllus* var. *lanceolatus* (Pau) Maire, Cat. Pl. Maroc 2: 238. 1932 syn. sec. African Plant Database (version 3.4.0)
= *Dianthus caryophyllus* var. *transiens* Maire in Bull. Soc. His. Nat. Afrique N. 20: 16. 1929 syn. sec. African Plant Database (version 3.4.0) ≡ *Dianthus caryophyllus* f. *transiens* (Maire) Maire, Fl. Afrique N. 10: 319. 1963 syn. sec. this publication
= *Dianthus caryophyllus* var. *puberulus* Faure & Maire in Bull. Soc. His. Nat. Afrique N. 22: 280. 1931 syn. sec. African Plant Database (version 3.4.0)
= *Dianthus mauritii* Sennen, Diagn. Nouv.: 295. 1936 syn. sec. African Plant Database (version 3.4.0)
= *Dianthus kremeri* var. *trichodontus* Faure & Maire in Bull. Soc. His. Nat. Afrique N. 30: 333. 1939 syn. sec. African Plant Database (version 3.4.0)

***Dianthus simulans* Stoj. & Stef. ex Stef. & Jordanov in Magyar Bot. Lapok 32: 1. 1933.** Sec. Dimopoulos et al. (2013)
≡ *Dianthus gracilis* subsp. *simulans* (Stoj. & Stef.) Stoj. & Acht. in Sborn. Bălg. Akad. Nauk. 29(2): 71. 1935 syn. sec. Dimopoulos et al. (2013)

***Dianthus sinaicus* Boiss., Diagn. Pl. Orient. ser. 1 1: 23. 1843.** Sec. Marhold (2011)
= *Dianthus multisquamatus* Hochst. ex Boiss., Fl. Orient. 1: 497. 1867 syn. sec. WFO 2018

***Dianthus siphonocalyx* Blakelock in Kew Bull. 3: 397. 1948 ["1949"].** Sec. Rechinger (1988)

***Dianthus somanus* Oskay in Phytotaxa 347: 264. 2018.** Sec. Oskay (2018)

***Dianthus sphacioticus* Boiss. & Heldr. in Boissier, Diagn. Pl. Orient., ser. 1, 8: 70. 1849.** Sec. Dimopoulos et al. (2013)
= *Dianthus leucophaeus* Sieber, Reise Kreta 2: 320. 1823, nom. illeg. syn. sec. WFO 2018 [non *Dianthus leucophaeus* Sm.]

***Dianthus spiculifolius* Schur, Enum. Pl. Transsilv.: 98. 1866.** Sec. Czerepanov (1995)

***Dianthus squarrosus* M.Bieb., Fl. Taur.-Caucas. 1: 331. 1808.** Sec. Czerepanov (1995)
= *Dianthus arenarius* Pall., Reise Russ. Reich. 3: 600. 1776 syn. sec. Czerepanov (1995) [non *Dianthus arenarius* L.]
= *Dianthus mussini* Hornem. in Hort. Bot. Hafn. 1: 408. 1813 syn. sec. Czerepanov (1995)
= *Dianthus recurvus* Fisch. ex Ledeb., Fl. Ross. 1: 284. 1842 syn. sec. Czerepanov (1995)
= *Dianthus sabulosus* Willd. ex Ledeb., Fl. Ross. 1: 284. 1842 syn. sec. Czerepanov (1995)

***Dianthus stamatiadae* Rech.f. in Bot. Not. 124: 77. 1971.** Sec. Dimopoulos et al. (2013)

***Dianthus stapfii* Lemperg in Repert. Spec. Nov. Regni Veg. 50: 261. 1941.** Sec. Rechinger (1988)

***Dianthus stellaris* Camarda in Parlatorea 6: 87. 2003.** Sec. Camarda (2003)
≡ *Dianthus siculus* subsp. *stellaris* (Camarda) Arrigoni in Parlatorea 7: 20. 2005 syn. sec. WFO 2018

***Dianthus stenocephalus* Boiss., Diagn. Pl. Orient. ser. 1 1: 19. 1843.** Sec. Rechinger (1988)
= *Dianthus macrolepis* Fenzl ex Boiss., Diagn. Pl. Orient., ser. 1, 8: 64. 1849 syn. sec. WFO 2018

***Dianthus stenopetalus* Griseb., Spic. Fl. Rumel. 1: 187. 1843.** Sec. Dimopoulos et al. (2013)
= *Dianthus geticus* Kulcz. in Rozpr. Wydz. Mat.-Przyr Polsk Akad. Umiejetn., Dzial A/B, Nauki Mat-Fiz. Biol. 59: 37. 1923 syn. sec. WFO 2018

***Dianthus stepanovae* Barkalov & Prob., Fl. Ross. Dalnego Vostoka: 444. 2006.** Sec. Barkalov & Probatova (2006)

***Dianthus sternbergii* Sieber ex Capelli, Cat. Stirp.: 24. 1821.** Sec. Marhold (2011)
≡ *Dianthus monspessulanus* var. *sternbergii* (Sieber ex Capelli) Tanfani, Fl. Ital. 9: 276. 1892 syn. sec. Kew WCVP (2019) ≡ *Dianthus hyssopifolius* subsp. *sternbergii* (Sieber ex Capelli) Graebn. & P.Graebn. in Ascherson & Graebn., Syn. Mitteleur. Fl. 5(2): 436. 1922 syn. sec. Marhold (2011)
= *Dianthus waldsteinii* Sternb. in Flora 9(1 Beibl.): 73. 1826 syn. sec. Marhold (2011)
= *Dianthus monspessulanus* subsp. *sternbergii* Hegi syn. sec. Marhold (2011)

***Dianthus stramineus* Boiss. & Heldr. in Boissier, Diagn. Pl. Orient., ser. 1, 8: 70. 1849.** Sec. Marhold (2011)

***Dianthus stribrnyi* Velen. in Sitzungsber. Königl. Böhm. Ges. Wiss., Math.-Naturwiss. Cl. 1892: 15. 1893.** Sec. Marhold (2011)
≡ *Dianthus moesiacus* subsp. *stribrnyi* (Velen.) Stoj. & Acht. in Sborn. Bălg. Akad. Nauk. 29(2): 53. 1935 syn. sec. Marhold (2011)

***Dianthus strictus* Banks & Sol., Nat. Hist. Aleppo ed. 2, 2: 252. 1794.** Sec. Rechinger (1988)
= *Dianthus polycladus* Boiss., Diagn. Pl. Orient., ser. 1, 8: 65. 1849 syn. sec. Rechinger (1988)
= *Dianthus quadrilobus* Boiss., Asie Min., Bot. 1: 222. 1860 syn. sec. Rechinger (1988)
= *Dianthus sulcatus* Boiss., Fl. Orient. 1: 483. 1867 syn. sec. Rechinger (1988)
= *Dianthus halepensis* Bornm. in Repert. Spec. Nov. Regni Veg. Beih. 89: 91. 1936 syn. sec. Rechinger (1988)

***Dianthus strictus* subsp. *multipunctatus* (Ser.) Mouterde ex Greuter & Burdet in Willdenowia 12: 187. 1982.** Sec. Rechinger (1988)
≡ *Dianthus multipunctatus* Ser., Prodr. 1: 362. 1824 syn. sec. Rechinger (1988)
= *Dianthus lineolatus* Bové ex Delile in Ann. Sci. Nat., Bot. II, 7: 286. 1837 syn. sec. Rechinger (1988)

Dianthus strictus* subsp. *strictus

***Dianthus strictus* subsp. *sublaevis* D.F.Chamb. in Edinburgh J. Bot. 51: 56. 1994.** Sec. Chamberlain et al. (1994)

***Dianthus strictus* subsp. *troodi* (Post) B.F.Osoriol & Seraphim ex Greuter & Burdet in Willdenowia 12: 187. 1982.** Sec. Rechinger (1988)
≡ *Dianthus multipunctatus* var. *troodi* Post in Mém. Herb. Boissier 1(18): 91. 1900 syn. sec. Rechinger (1988) ≡ *Dianthus strictus* var. *troodi* (Post) S.S.Hooper, Fl. Cyprus 1: 806. 1977 syn. sec. Rechinger (1988)

***Dianthus strictus* subsp. *velutinus* (Boiss.) Mouterde ex Greuter & Burdet in Willdenowia 12: 187. 1982.** Sec. Rechinger (1988)
≡ *Dianthus multipunctatus* var. *velutinus* Boiss., Diagn. Pl. Orient., ser. 1, 8: 65. 1849 syn. sec. Rechinger (1988)

***Dianthus strictus* var. *axilliflorus* (Fenzl) Reeve in Notes Roy. Bot. Gard. Edinburgh 28: 19. 1967.** Sec. Rechinger (1988)
≡ *Dianthus axilliflorus* Fenzl, Pug. Pl. Nov. Syr.: 10. 1842 syn. sec. Rechinger (1988) ≡ *Dianthus multipunctatus* var. *axilliflorus* (Fenzl) Boiss., Fl. Orient. 1: 483. 1867 syn. sec. Rechinger (1988)
= *Dianthus bitlisianus* Kotschy ex Boiss., Fl. Orient. 1: 483. 1867 syn. sec. Rechinger (1988)

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= *Dianthus superbus* var. *rubicundus* Ser., Prodr. 1: 365. 1824 syn. sec. Kew WCVP (2019)
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***Dianthus superbus* subsp. *alpestris* Kablík. ex Čelak., Prodr. Fl. Böhmen: 508. 1875.** Sec. Marhold (2011)
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***Dianthus sylvestris* subsp. *longicaulis* (Ten.) Greuter & Burdet in Willdenowia 12: 187. 1982.** Sec. Dimopoulos et al. (2013)

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***Dianthus tabrisianus* var. *coloratus* (Bornm.) Rech.f., Fl. Iran. 163: 147. 1988.** Sec. Rechinger (1988)
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= *Dianthus scaber* Chaix, Hist. Pl. Dauphiné 1: 331. 1786 syn. sec. WFO 2018
= *Dianthus scaber* Thunb., Prodr. Pl. Cap. 1: 81. 1794 syn. sec. African Plant Database (version 3.4.0)
= *Dianthus prostratus* Eckl. & Zeyh., Enum. Pl. Afric. Austral. 1: 32. 1835 syn. sec. WFO 2018
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***Dianthus thunbergii* f. *maritimus* S.S.Hooper, Hooker's Icon. Pl. 7 [1]: 38–40. 1959.** Sec. African Plant Database (version 3.4.0)

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***Dianthus tianschanicus* Schischk., Fl. URSS 6: 897. 1936.** Sec. Czerepanov (1995)

***Dianthus tlaratensis* Husseinov in Bot. Zhurn. (Moscow & Leningrad) 75: 234. 1990.** Sec. Kuzmina & Nersesyan (2012)

***Dianthus toletanus* Boiss. & Reut., Diagn. Pl. Nov. Hisp.: 7. 1842.** Sec. Bernal et al. (1990)
≡ *Dianthus scaber* subsp. *toletanus* (Boiss. & Reut.) Tutin in Feddes Repert. Spec. Nov. Regni Veg. 68: 190. 1963 syn. sec. Bernal et al. (1990)

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= *Dianthus biternatus* Schur in Verh. Mitth. Siebenbürg. Vereins Naturwiss. Hermannstadt 4: 11. 1853 syn. sec. WFO 2018
= *Dianthus transsylvanicus* Schur in Verh. Mitth. Siebenbürg. Vereins Naturwiss. Hermannstadt 5: 82. 1854 syn. sec. WFO 2018
= *Dianthus pruinosus* Janka, Index Seminum (WU) 1858: 4. 1858 syn. sec. WFO 2018
= *Dianthus banaticus* Kit. in Linnaea 32: 527. 1863 syn. sec. WFO 2018

***Dianthus trifasciculatus* subsp. *parviflorus* Stoj. & Acht., Sborn. Blghar. Akad. Nauk 29: 40. 1935.** Sec. Marhold (2011)
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= *Dianthus euponticus* Zapał., Consp. Fl. Gallic. Crit. 3: 141. 1911 syn. sec. Marhold (2011)

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= *Dianthus alatavicus* Popov in Byull. Moskovsk. Obshch. Isp. Prir., Otd. Biol. n.s., 47: 86. 1938 syn. sec. Czerepanov (1995)

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***Dianthus vanensis* Behçet & Ilçim in Turkish J. Bot. 37: 219. 2013.** Sec. İlçim et al. (2013)

***Dianthus varankii* Hamzaoğlu & Koç in KSÜ Tarim Doga Derg. 21: 546. 2018.** Sec. Hamzaoğlu et al. (2018)

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≡ *Dianthus ×saxatilis* nothosubsp. *varians* (Rouy & Foucaud) M.Bernal, Laínz & Muñoz Garm. in Anales Jard. Bot. Madrid 45: 367. 1988 syn. sec. Bernal et al. (1990)

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≡ *Dianthus caryophyllus* subsp. *virgatus* (Pasq.) Arcang., Comp. Fl. Ital. ed. 2: 306. 1894 syn. sec. Bacchetta et al. (2010)

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≡ *Tunica virginea* (L.) Scop., Fl. Carniol., ed. 2, 1: 302. 1771 syn. sec. Domina et al. (2021); ≡ *Dianthus caryophyllus* var. *virgineus* (L.) Fiori, Fl. Italia 1(2): 379. 1898 syn. sec. Domina et al. (2021) ≡ *Dianthus rupestris* Lam., Fl. Franç. 2: 536. 1779, nom. illeg. syn. sec. Domina et al. (2021) ≡ *Dianthus scheuchzeri* Rchb., Fl. Germ. Excurs.: 811. 1832 syn. sec. Domina et al. (2021)

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= *Dianthus grisebachii* Boiss., Diagn. Pl. Orient., ser. 2, 1: 62. 1854 syn. sec. WFO 2018
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= *Dianthus ×richteri* Rouy & Foucaud, Fl. France 3: 182. 1896 syn. sec. Bernal et al. (1990)

***Dianthus woroschilovii* Barkalov & Prob., Fl. Ross. Dalnego Vostoka: 76. 2006.** Sec. Barkalov & Probatova (2006)
≡ *Dianthus chinensis* subsp. *reflexus* Vorosch. in Byull. Moskovsk. Obshch. Isp. Prir., Otd. Biol. n.s., 83(5): 116. 1978 syn. sec. Barkalov & Probatova (2006)

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= *Dianthus serpae* Ficalho & Hiern in Trans. Linn. Soc. London, Bot. 2: 17. 1881 syn. sec. African Plant Database (version 3.4.0)
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= *Dianthus colensoi* F.N.Williams in J. Bot. 23: 344. 1885 syn. sec. African Plant Database (version 3.4.0)

Dianthus zeyheri* subsp. *zeyheri

***Dianthus zonatus* Fenzl, Pug. Pl. Nov. Syr.: 11. 1842.** Sec. Dimopoulos et al. (2013)
= *Dianthus hypochlorus* Boiss. & Heldr. in Boissier, Diagn. Pl. Orient., ser. 1, 8: 67. 1849 syn. sec. WFO 2018

Hybrids

***Dianthus* ×*ambrozy-migazzianus* Boros in Magyar Bot. Lapok 23: 33. 1924 ["1925"].** Sec. WFO 2018

***Dianthus* ×*arvernensis* Rouy & Foucaud, Fl. France 3: 185. 1896.** Sec. WFO 2018

***Dianthus* ×*brivatensis* Blanch., Jardin 6: 174. 1892.** Sec. WFO 2018

***Dianthus* ×*burciae* Péterfi & Gürtler in Magyar Bot. Lapok 15: 20. 1916.** Sec. WFO 2018

***Dianthus* ×*calalpinus* Farrer in Engl. Rock Gard. 1: 283. 1919**

***Dianthus* ×*callizonoides* Sünd. in Allg. Bot. Z. Syst. 12: 91. 1906.** Sec. Kew WCVP (2019)

***Dianthus* ×*courtoisii* Rchb., Fl. Germ. Excurs.: 806. 1832.** Sec. WFO 2018
= *Dianthus* ×*wolfii* Vetter in Bull. Murith. Soc. Valais. Sci. Nat. 11: 132. 1883 syn. sec. Kew WCVP (2019)

***Dianthus* ×*digeneus* Rouy & Foucaud, Fl. France 3: 184. 1896.** Sec. WFO 2018

***Dianthus* ×*ebneri* Heimerl, Fl. Brixen: 105. 1911.** Sec. WFO 2018

***Dianthus* ×*gabrielae* Domin in Vestn. Král. Ceské Spolecn. Nauk. Tr. Mat.-Prír. 13: 4. 1927 ["1926"].** Sec. WFO 2018

***Dianthus* ×*genersichii* Györffy in Magyar Bot. Lapok 23: 70. 1924 ["1925"].** Sec. WFO 2018

***Dianthus* ×*josephinae* Font Quer in Cavanillesia 1: 34. 1928.** Sec. WFO 2018

***Dianthus* ×*julii-wolfii* Marton in Magyar Bot. Lapok 15: 19. 1916.** Sec. WFO 2018

***Dianthus* ×*krasanii* A.Kern. ex Dalla Torre & Sarnth., Fl. Tirol 6(2): 209. 1909.** Sec. WFO 2018

***Dianthus* ×*lacinulatus* Zapał., Consp. Fl. Gallic. Crit. 3: 161. 1911.** Sec. WFO 2018

***Dianthus* ×*lamyi* Rouy & Foucaud, Fl. France 3: 176. 1896.** Sec. WFO 2018

***Dianthus* ×*laucheanus* Bolle ex Bolle & Asch. in Verh. Bot. Vereins Prov. Brandenburg 33: 102. 1892.** Sec. WFO 2018

***Dianthus* ×*loretii* Rouy & Foucaud, Fl. France 3: 176. 1896.** Sec. WFO 2018

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***Dianthus* ×*nigritus* Hirahata & Kitam. in Acta Phytotax. Geobot. 20: 205. 1962.** Sec. WFO 2018

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***Dianthus* ×*ponsi* Rouy & Foucaud, Fl. France 3: 184. 1896.** Sec. WFO 2018

***Dianthus* ×*pritchardii* Farrer, Engl. Rock Gard. 1: 300. 1919**

***Dianthus* ×*saxatilis* F.W.Schmidt in Neuere Abh. Königl. Böhm. Ges. Wiss. 1: 28. 1790.** Sec. WFO 2018

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***Dianthus acuminatus* F.W.Williams in J. Bot. 23: 347. 1885.** Sec. WFO 2018

***Dianthus adulterinus* Sweet, Hort. Brit. ed. 2: 50. 1830.** Sec. WFO 2018

***Dianthus ambiguus* Pančić, Fl. Serbiae: 178. 1874.** Sec. WFO 2018

***Dianthus ambiguus* Pančić ex F.N.Williams in J. Bot. 23: 342. 1885.** Sec. WFO 2018

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***Dianthus aragonensis* Timb.-Lagr., Mém. Acad. Sci. Toulouse VI, 5: 242. 1867.** Sec. WFO 2018

***Dianthus arenarius* var. *gigas* Novák.** Sec. WFO 2018
≡ *Dianthus arenarius* subsp. *gigas* (Novák) Soó in Feddes Repert. 83: 161. 1972 syn. sec. WFO 2018

***Dianthus armerioides* Raf. in J. Bot. Agric. 4: 269. 1814.** Sec. WFO 2018

***Dianthus attenuatus* proles *maritimus* Rouy.** Sec. Kew WCVP (2019)

***Dianthus banaticiformis* Prodán in Bul. Soc. Sti. Cluj 10: 152. 1948.** Sec. WFO 2018

***Dianthus basalticus* (Domin) Fritsch, Exkursionsfl. Oesterreich ed. 2: 215. 1909.** Sec. WFO 2018
≡ *Dianthus carthusianorum* var. *basalticus* Domin syn. sec. this publication

***Dianthus behriorum* Bornm. in Repert. Spec. Nov. Regni Veg. 41: 188. 1936.** Sec. WFO 2018

***Dianthus bolfae* Sennen in Bol. Soc. Ibér. Ci. Nat. 25: 149. 1926.** Sec. WFO 2018

***Dianthus bornmuelleri* Hausskn. in Mitt. Geogr. Ges. (Thüringen) Jena 9: 16. 1891.** Sec. WFO 2018

***Dianthus borzaeanus* Prodán in Bul. Inform. Grad. Bot. Univ. Cluj 5: 41. 1925.** Sec. WFO 2018

***Dianthus bottemeri* Bouchard in Bull. Soc. Bot. France 97: 220. 1951.** Sec. WFO 2018

***Dianthus brachyanthus* Gren. & Godr., Fl. France 1: 235. 1847.** Sec. WFO 2018

***Dianthus brachycarpus* Velen. in Abh. Königl. Böhm. Ges. Wiss. 7(Folge 1): 9. 1886.** Sec. WFO 2018

***Dianthus brevilimbis* Boiss. ex Trautv. in Trudy Imp. S.-Peterburgsk. Bot. Sada 2: 506. 1873.** Sec. WFO 2018

***Dianthus brevior* Gand., Contr. Fl. Terr. Slav. Merid. 1: 5. 1883.** Sec. WFO 2018

***Dianthus brevistylus* Timb.-Lagr. & Jeanb. in Bull. Soc. Agric. Sci. Litt. Pyrén.-Orient. 25: 24. 1881.** Sec. WFO 2018

***Dianthus bucovinensis* Prodán & Morariu in Bul. Sti. Acad. Republ. Populare Romîne, Sect. Biol. Sti. Agric. Ser. Bot., 9: 301. 1957.** Sec. WFO 2018

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***Dianthus camboi* Sennen, Diagn. Nouv.: 42. 1936.** Sec. WFO 2018

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***Dianthus carneus* Jord., Icon. Fl. Eur. 3: 25. 1903.** Sec. WFO 2018

***Dianthus carpaticus* Woloszack.** [publication] Sec. WFO 2018

***Dianthus caucasicus* Spreng., Adumbr. Pl. Hort. Hal.: 23. 1806.** Sec. WFO 2018

***Dianthus chlorostomus* Jord., Icon. Fl. Eur. 3: 31. 1903.** Sec. WFO 2018

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***Dianthus cruentus* Fisch. ex Planch., Fl. Serres Jard. Eur. 5: t. 488. 1849.** Sec. WFO 2018

***Dianthus curticeps* Borbás in Oesterr. Bot. Z. 40: 97. 1890.** Sec. WFO 2018

***Dianthus decrescens* Borbás in Oesterr. Bot. Z. 27: 378. 1877.** Sec. WFO 2018

***Dianthus deserti* Post, Pl. Postianae 2: 6. 1891.** Sec. WFO 2018

***Dianthus deserti* Kotschy in Sitzungsber. Kaiserl. Akad. Wiss., Math.-Naturwiss. Cl., Abt. 1, 52(1): 262. 1866.** Sec. WFO 2018

Dianthus dissimilis **(Burnat) Landolt, Fl. Indicativa: 268. 2010.** Sec. WFO 2018

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Dianthus dostalii **Novák in Repert. Spec. Nov. Regni Veg. 38: 304. 1935.** Sec. WFO 2018

Dianthus egregius **Jord., Icon. Fl. Eur. 3: 23. 1903.** Sec. WFO 2018

Dianthus elegans **M.Bieb. ex Rupr., Fl. Caucasi: 174. 1870.** Sec. WFO 2018

Dianthus elongatus **C.A.Mey., Verz. Caucasus Pfl.: 211. 1849.** Sec. WFO 2018

Dianthus erubescens **Roth, Enum. Pl. Phaen. Germ. 1(2): 279. 1827.** Sec. WFO 2018

Dianthus exilis **Posp., Fl. Oesterr. Küstenl. 1: 452. 1897.** Sec. WFO 2018

Dianthus fallacinus **Rouy & Foucaud, Fl. France 3: 190. 1896.** Sec. WFO 2018

Dianthus faurei **Arv.-Touv. in Bull. Soc. Dauphin. Échange Pl. 7: 263. 1880.** Sec. WFO 2018

Dianthus fauriei **H.Lév. & Vaniot in Repert. Spec. Nov. Regni Veg. 7: 200. 1909.** Sec. WFO 2018

Dianthus flabellatus **Jord., Icon. Fl. Eur. 3: 29. 1903.** Sec. WFO 2018

Dianthus flahaultii **Braun-Blanq. in Annuaire Conserv. Jard. Bot. Genève 21: 32. 1919.** Sec. WFO 2018

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Dianthus foliosus **Turcz. in Bull. Soc. Imp. Naturalistes Moscou 5: 184. 1832.** Sec. WFO 2018

Dianthus galicicae **Micevski in Prilozi Oddel. Biol. Med. Nauki Makedonska Akad. Nauk. Umet. 8: 40. 1987 ["1990"].** Sec. WFO 2018

Dianthus gelcenii **Gelcenis ex Sennen in Bull. Soc. Bot. France 73: 646. 1926 ["1927"].** Sec. WFO 2018

***Dianthus gizellae* Borbás in Oesterr. Bot. Z. 27: 378. 1877.** Sec. WFO 2018

***Dianthus glaucophyllus* Colla in Mem. Reale Accad. Sci. Torino 35: 187. 1831.** Sec. WFO 2018

***Dianthus grandiflorus* Poir., Encycl. 4: 515. 1798.** Sec. WFO 2018

***Dianthus gremblichii* Asch. in Sitzungsber. Bot. Vereins Prov. Brandenburg 19: 28. 1877.** Sec. WFO 2018

***Dianthus gustavii* Sennen, Diagn. Nouv.: 9. 1936.** Sec. WFO 2018

***Dianthus handelii* Hayek in Ann. K. K. Naturhist. Hofmus. 28: 157. 1914.** Sec. WFO 2018

***Dianthus hanryi* Burnat, Fl. Alpes Marit. 1: 223. 1892.** Sec. WFO 2018

***Dianthus hazaricus* F.N.Williams in Bull. Herb. Boissier, sér. 2, 1: 892. 1901.** Sec. WFO 2018

***Dianthus helwigii* Asch.** [publication] Sec. WFO 2018

***Dianthus hendersonianus* Paxton in Fl. Mag. (London) 14: 126. 1848.** Sec. WFO 2018

***Dianthus heterophyllus* Rouy & Foucaud, Fl. France 3: 172. 1896.** Sec. WFO 2018

***Dianthus hornemannii* Ser., Prodr. 1: 262. 1824.** Sec. WFO 2018
= *Dianthus geminatus* Kit. ex Schult., Oestr. Fl. ed. 2, 1: 656. 1814 syn. sec. WFO 2018

***Dianthus huebneri* Seehaus in Verh. Bot. Vereins Prov. Brandenburg 33: 95. 1892.** Sec. WFO 2018

***Dianthus hypoleucus* Jord., Icon. Fl. Eur. 3: 31. 1903.** Sec. WFO 2018

***Dianthus impunctatus* Jord., Icon. Fl. Eur. 3: 29. 1903.** Sec. WFO 2018

***Dianthus inoxianus* Gallego in Lagascalia 14: 71. 1986.** Sec. WFO 2018

***Dianthus istriacus* Gand., Contr. Fl. Terr. Slav. Merid. 1: 5. 1883.** Sec. WFO 2018

***Dianthus italicus* Jan ex Pasq., Index Seminum (NAP): 1866. 1866.** Sec. WFO 2018

Dianthus jablanicensis **Micevski in Prilozi Oddel. Biol. Med. Nauki Makedonska Akad. Nauk. Umet. 8: 31. 1987 ["1990"].** Sec. WFO 2018

Dianthus jacupicensis **(Košanin) Micevski in Prilozi Oddel. Biol. Med. Nauki Makedonska Akad. Nauk. Umet. 8: 41. 1987 ["1990"].** Sec. WFO 2018

Dianthus japigicum **Bianco & Brullo.** Sec. WFO 2018

Dianthus jugoslavicus **Micevski in Prilozi Oddel. Biol. Med. Nauki Makedonska Akad. Nauk. Umet. 8: 33. 1987 ["1990"].** Sec. WFO 2018

Dianthus ×laucheanus **Bolle in Gartenflora 53: 393. 1904.** Sec. WFO 2018

Dianthus laxus **Tausch, Hort. Canal. 2: t. 17. 1825.** Sec. WFO 2018

Dianthus lereschii **(Burnat) Landolt, Fl. Indicativa: 268. 2010.** Sec. WFO 2018

Dianthus levieri **Borbás in Oesterr. Bot. Z. 27: 231. 1877.** Sec. WFO 2018

Dianthus lisae **Burnat, Fl. Alpes Marit. 1: 233. 1892.** Sec. WFO 2018

Dianthus longicaulis **St.-Lag. in Ann. Soc. Bot. Lyon 7: 144. 1880.** Sec. WFO 2018

Dianthus longifolius **Jord., Icon. Fl. Eur. 3: 32. 1903.** Sec. WFO 2018

Dianthus macedonicus **Micevski in Prilozi Oddel. Biol. Med. Nauki Makedonska Akad. Nauk. Umet. 8: 35. 1987 ["1990"].** Sec. WFO 2018

Dianthus macrophyllus **Jord., Icon. Fl. Eur. 3: 30. 1903.** Sec. WFO 2018

Dianthus magyari **Dorsch, Kert. Szemle 5: 241. 1933.** Sec. WFO 2018

Dianthus marginatus **Poir., Encycl. Suppl. 4: 131. 1816.** Sec. WFO 2018

Dianthus maris **Willd. ex B.S.Williams in Bot. J. Linn. Soc. 29(203): 415. 1893.** Sec. WFO 2018

Dianthus marisensis **Simonk. in Term. Füz. 9: 37. 1885.** Sec. WFO 2018

Dianthus maritimus **Jord., Icon. Fl. Eur. 3: 25. 1903.** Sec. WFO 2018

Dianthus massiliensis **Jord., Icon. Fl. Eur. 3: 25. 1903.** Sec. WFO 2018

***Dianthus mayeri* C.Presl in Abh. Königl. Böhm. Ges. Wiss. V, 3: 448. 1845.** Sec. WFO 2018

***Dianthus medius* Besser ex Nyman, Consp. Fl. Eur. 1: 103. 1878.** Sec. WFO 2018

***Dianthus microcheilus* B.S.Williams in Oesterr. Bot. Z. 41: 176. 1891.** Sec. WFO 2018

***Dianthus mikii* Reichardt in Verh. K. K. Zool.-Bot. Ges. Wien 17: 331. 1867.** Sec. WFO 2018

***Dianthus minimus* Javeiol in Curr. Sci. 42: 692. 1973.** Sec. WFO 2018

***Dianthus minor* Porta in Nuovo Giorn. Bot. Ital. 11: 278. 1879.** Sec. WFO 2018

***Dianthus moldavicus* Grinț. in Bul. Inform. Grad. Bot. Univ. Cluj 4: 57. 1924.** Sec. WFO 2018

***Dianthus monteuilii* Burnat, Fl. Alpes Marit. 1: 221. 1891.** Sec. WFO 2018

***Dianthus morrisii* Hance in London J. Bot. 7: 472. 1848.** Sec. WFO 2018
≡ *Tunica morrisii* (Hance) Walp. in Ann. Bot. Syst. 2: 101. 1851 syn. sec. Kew WCVP (2019);

***Dianthus nevadensis* Sennen, Diagn. Nouv.: 210. 1936.** Sec. WFO 2018

***Dianthus nicaeensis* Jord., Icon. Fl. Eur. 3: 30. 1903.** Sec. WFO 2018

***Dianthus nobilis* Anon. in Gartenflora 81: 94. 1932.** Sec. WFO 2018

***Dianthus novakii* J.Sojak, Čas. Nár. Mus., Odd. Přír. 148: 77. 1979 ["1980"].** Sec. WFO 2018

***Dianthus obtusifolius* Scheele in Flora 26: 428. 1843.** Sec. WFO 2018

***Dianthus oculatus* Boiss. in Ann. Sci. Nat., Bot. IV, 2: 245. 1854.** Sec. WFO 2018

***Dianthus ×oenipontanus* A.Kern. in Oesterr. Bot. Z. 15: 209. 1865.** Sec. WFO 2018

***Dianthus ohridanus* Micevski in Prilozi Oddel. Biol. Med. Nauki Makedonska Akad. Nauk. Umet. 8: 34. 1987 ["1990"].** Sec. WFO 2018

***Dianthus pancicii* F.N.Williams.** [publication] Sec. WFO 2018

Dianthus parciflorus **Jord., Icon. Fl. Eur. 3: 28. 1903.** Sec. WFO 2018

Dianthus pedemontanus **Rouy, Fl. France 3: 188. 1896.** Sec. WFO 2018

Dianthus penrynae **Sweet, Hort. Brit. ed. 2: 51. 1830.** Sec. WFO 2018

Dianthus petteri **Boiss., Diagn. Pl. Orient., ser. 2, 1: 66. 1854.** Sec. WFO 2018

Dianthus platyphyllus **Turcz. in Bull. Soc. Imp. Naturalistes Moscou 27(2): 368. 1854.** Sec. WFO 2018

Dianthus pomeridianus **L., Sp. Pl., ed. 2 2: 1673. 1763.** Sec. WFO 2018
= *Dianthus tricolor* Adams ex Ser., Prodr. 1: 360. 1824 syn. sec. WFO 2018

Dianthus ponticola **Bornm. in Bot. Jahrb. Syst. 59: 398. 1924.** Sec. POWO. Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew.

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Dianthus prilepensis **Micevski in Prilozi Oddel. Biol. Med. Nauki Makedonska Akad. Nauk. Umet. 8: 39. 1987 ["1990"].** Sec. WFO 2018

Dianthus puberulus **F.N.Williams in J. Bot. 23: 344. 1885.** Sec. WFO 2018

Dianthus puberulus **Jord., Icon. Fl. Eur. 3: 31. 1903.** Sec. WFO 2018

Dianthus pulchellus **Pers., Syn. Pl. 1: 495. 1805.** Sec. WFO 2018

Dianthus pulverulentus **Wettst. in Sitzungsber. Kaiserl. Akad. Wiss., Math.-Naturwiss. Cl., Abt. 1, 98: 382. 1889 ["1896"].** Sec. WFO 2018

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***Kohlrauschia sibthorpii* Kunth, Fl. Berol., ed. 2, 1: 109. 1838**
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***Velezia arabica* Hochst. & Steud. ex Steud., Nomencl. Bot., ed. 2, 2(2–5): 746. 1841**

Excluded names

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Wrongly attributed to Trautvetter l.c., who had cited *Dianthus alpinus* var. *glacialis* (Haenke) Regel in Bull. Soc. Imp. Naturalistes Moscou 34(II): 533. 1862

***Dianthus argentii* (Meikle) Govaerts.** Sec. POWO. Plants of the World Online. Facilitated by the Royal Botanic Gardens, Kew.

Listed as ined. in Plants of the World Online, with a remark that the name has been published in Skvortsovia, but no such name was found in this journal.

***Dianthus hypoleucus* var. *karami* Boiss., Fl. Orient., Suppl.: 80. 1888.** Sec. TPL (2013)

Erroneous TPL record for *Dianthus hypochlorus* var. *karami* Boiss.

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Supplementary material 1

Appendix 1

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Data type: Xlsx file.

Explanation note: Voucher information and ENA accession numbers.

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